THE PRODUCTION AND MANAGEMENT JOURNAL OF THE NORTH AMERICAN PULP AND PAPER INDUSTRY

# PULP & PAPER

"the Cellulose Age"

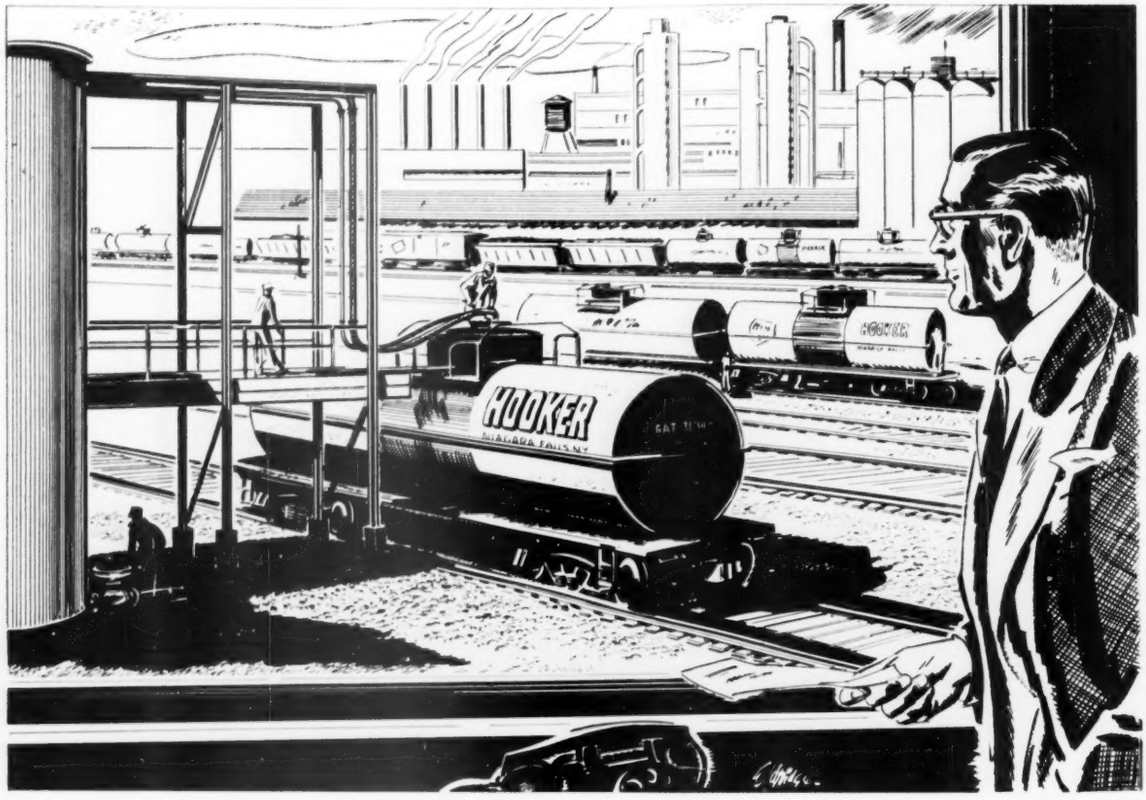
NOVEMBER, 1953 VOL. 27-NO. 12

**A SCENE TOP LEADERS OF AMERICAN PULP AND PAPER INDUSTRY WILL NEVER FORGET—**

They gazed upon green carpet of healthy Weyerhaeuser Douglas Fir Tree Farms stretching out 35 miles to snow-capped Mt. St. Helens (nearly 10,000 ft.). The carpet varies in shade and thickness, for farm "patches" range from 15 to 350 years. Ave. growth: 1 1/5 cords per acre for 80 years—none cut under 160 years old.
—Western Tour Story in this issue.

**OTHER FEATURES—**






# For smoother, better processing—

# buy the Uniformity Hooker Caustic Soda gives you

Month after month, year after year—you can standardize processing methods, and get consistent results, when you use Hooker Caustic Soda.

You need never adjust your process to meet variations in caustic soda shipments. You can be sure each new shipment closely matches your current inventory.

Uniformity, from shipment to shipment, is the result of close quality checking at Hooker. More than a score of inspections and analyses safeguard the uniformity of the Hooker caustic you buy.

Do you agree, with leading companies in 30 different industries, that this is a good reason to *standardize* on Hooker caustic soda?

If you do, a letter or a phone call to the nearest Hooker plant or office will quickly bring you the product data and other facts you need to make your decision.

## You can *standardize* on Hooker Caustic Soda

| Forms | Grades | Containers |
|---|---|---|
| Liquid 50% | Standard grade | Tank cars |
| Liquid 73% | High grade | Tank wagons |
| Flake | Rayon grade | Barges |
| Special fine flakes | | Drums |
| Solid | | |

*From the Salt of the Earth*

**HOOKER ELECTROCHEMICAL COMPANY**

2 UNION ST., NIAGARA FALLS, N. Y.

NIAGARA FALLS • TACOMA • NEW YORK • CHICAGO • LOS ANGELES

HOOKER CHEMICALS

# Here Are Facts You Should Know About Electric Motor Bearings

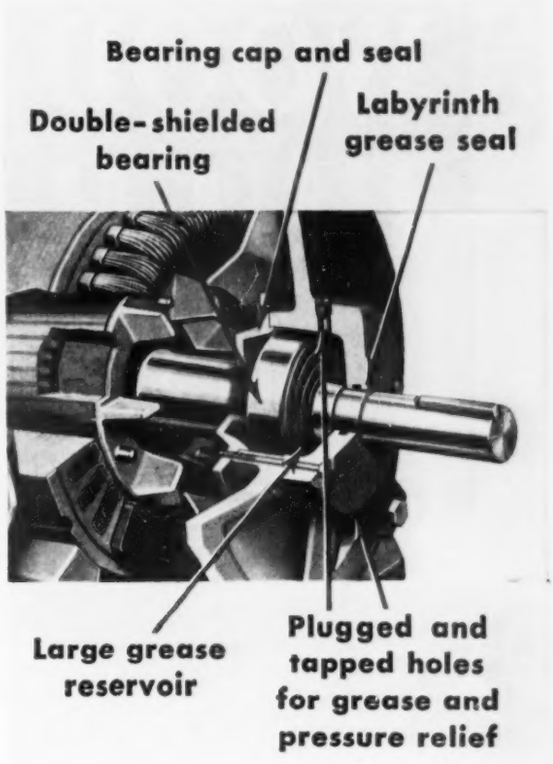
AN ideal motor bearing would operate for indefinitely long periods under all types of conditions without requiring any attention whatever. However, in the opinion of our engineers, such a bearing and its attendant lubricant are not yet available on the commercial market. Consequently, bearings for many types of operations, particularly where overloading, extreme temperature ranges and chemical and dirt laden atmospheres are involved, require special lubricants or regular lubrication schedules.

Of course, bearings suitable for many kinds of operation under normal conditions can be built to require no attention for very long periods — usually several years. Allis-Chalmers can supply sealed bearings in all frame sizes through 505 on short delivery and without extra cost for applications of this type.

## Which is the Best Design for *Your* Application?

***We believe that the design used in standard Allis-Chalmers drip-proof, tefc and explosion-proof motors represents the best design for most industrial users.***

The Allis-Chalmers standard design consists of a pre-lubricated, double-shielded bearing mounted in the end housing with a generous grease reservoir. Plugged and tapped holes are provided for grease and for pressure relief. Under normal operating conditions, this design will operate as long without attention as any other type of bearing in use today. But where difficult operating conditions make re-lubrication desirable, it can be done as part of the normal lubricating routine without dismantling the motor.




The large grease reservoir and shielded bearing design assure that grease lost from the bearing due to high operating temperatures or other causes will be replaced automatically.

For further information on bearing design and other features of Allis-Chalmers motors, call your nearby Allis-Chalmers District Office or Authorized Distributor.

A-4147

**ALLIS-CHALMERS**

Milwaukee 1, Wisconsin

PULP & PAPER

*Production and Management Magazine of the Industry*

November 1953
Vol. 27—No. 12

*"The Cellulose Age"*

ABC ABP

## IN THIS ISSUE



**ALBERT W. WILSON**.....Editor
**RALPH DAVID**.....Associate Editor
**CHARLES L. SHAW**.....Associate Editor
**WILLIAM J. KREBS**.....Associate Editor
**LOUIS H. BLACKERBY**.....Field Editor
**STUART F. LEETE**.....Field Editor
**A. W. PONSFORD**.....Field Editor
**W. E. CROSBY**.....Forestry Editor
**M. F. BOSWORTH**.....Business Representative
**KEN A. JOHNSON**.....Business Representative

**A MILLER FREEMAN PUBLICATION**

**MILLER FREEMAN**.....President
**LAWRENCE K. SMITH**.....Vice President
**WILLIAM B. FREEMAN**.....Vice President
**MILLER FREEMAN JR.**.....Secy.-Treasurer

**Publication Office**
Emmett Street, Bristol, Connecticut

**Office of Editor**
1791 Howard St., Chicago 26, Ill. ..... ROgers Park 4-3420

**Advertising and Production Office**
370 Lexington Ave., New York 17, N.Y. ... MUrray Hill 3-9294
71 Columbia St., Seattle 4, Wash. ..... MAin 1626
906 Royal Bank Bldg., Vancouver, B.C., Canada ..... MArine 7287
3518 Dante St., New Orleans 18, La. ..... AMherst 2762
Others—534 SW 3rd Ave., Portland 4, Ore. (BEacon 6348); 121 2nd St., San Francisco 5, Cal. (GA 1-5887); 815 Witmer St., Los Anneles 17, Cal. (DUnkirk 9-1112).

SUBSCRIPTION RATES (for 12 monthly issues and WORLD REVIEW NUMBER, each year): United States, Canada, Mexico and other Pan American Union nations—one year, $3.00; two years, $5.00. Other countries—one year, $4.00; two years, $7.00.
CHANGE OF ADDRESS: Please send notice of change of address as early as possible, and include both old and new addresses, plus zone no. at new address.
ADVERTISING: All copy, plates, instructions and insertions orders should be sent to New York office.
PULP & PAPER is published monthly, except August when publication is semi-monthly, at Bristol, Conn., by Miller Freeman Publications, Inc.
 Entered as second class matter, Dec. 4, 1951, at Post Office, Bristol, Conn., under Act of March 3, 1879. Postmaster: Please send Notice 3579 to PULP & PAPER, 121 Second St., San Francisco 5, Calif.

PULP & PAPER circulates all over the world—throughout the United States, Canada, Mexico, Alaska, Hawaii, the Philippines, Australia and New Zealand, Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Guatemala, Uruguay, Venezuela, England, Ireland, Scotland, Sweden, Norway, Finland, France, Germany, Austria, Belgium, Italy, Netherlands, Portugal, Spain, Switzerland, Yugoslavia, India, Pakistan, Israel, Morocco, Egypt, Turkey, South Africa, China, Hong Kong, Japan, Formosa, near and far around the world, wherever pulp and paper are made.

## ABC—and ABP

For more than eight years the little insignia "ABC," which appears at the left of this column, has been carried on this page in PULP & PAPER. To the uninitiated in circulation matters it may seem as mysterious as a Greek letter society. But to publication people it is as simple as the ABC of its letters. It means the paid subscriptions of PULP & PAPER are subject to a twice-a-year examination by the Audit Bureau of Circulations, in the same way that the financial books of a corporation are audited. In this audit, ABC attests to the net paid circulation; classifies these subscribers as to their industry and their jobs; and even tells where they live.

You, as a reader and subscriber, may be interested to know you are one of almost 6,000 that now pay to have PULP & PAPER come to you each month. You are one of 6,000 associated with the industry throughout the world who ask that PULP & PAPER keep you informed on matters of highest importance to your business. Many of you are company executives, mill managers and superintendents, many others are directly concerned with technical or engineering aspects of the industry or with actual production of pulpwood, pulp and paper.

Incidentally, while this is the fifth largest industry in the U.S., there are only 490 companies involved, operating about 1,000 mill units, in many cases with two or more units—pulp and paper—combined in one locale. And in Canada, where pulp and paper is No. 1 industry, there are only about 100 mills.

You may be interested in where these subscribers live. In the United States, 22.0 percent live in the New England and Middle Atlantic states which produce approximately 16.5 percent of U.S. pulp tonnage and 29 percent of U.S. paper tonnage; 23.4 percent live in the East and West North Central states which produce 11.5 percent of U.S. pulp and 29 percent of U.S. paper; 31.0 percent live in the Southern states which produce 54 percent of the pulp and 33.7 percent of the paper; and 23.4 percent live on the West Coast and Mountain states which produce 18 percent of the pulp and 8.8 percent of the paper.

Since 1947 the total paid circulation of PULP & PAPER has almost doubled. We are appreciative of the confidence you have shown in our reporting of your industry as reflected in this circulation growth. Because we are seeking constantly to improve our service to our readers and our industry, we have recently added some new letters to go at the top of this page—ABP.

ABP stands for Associated Business Publications, and PULP & PAPER as a member joins other paid circulation publications in joint efforts to improve the quality of its material and its operations. This is further demonstration of how keenly we feel our responsibilities to our subscribers and the industry we serve.

## "This Pliable Product Pulp"

"This pliable product pulp . . . it slammed shells at the Commies in Korea, clothes modern man, is used to package food you find on your grocers' shelves.

"Money doesn't grow on trees. But an amazing amount of other things do. There is lumber, of course. For many years that was about all we got out of trees.

"Today the list of products manufactured from wood is enough to cause the old-time lumberjack of the last century to pause in the middle of a hefty cut at a tree and stare in disbelief.

"Prominent among the newer uses of wood is pulp. From wood pulp we get paper, containerboard, rayon, cellophane, plastics, explosives, lacquers and many other useful products. It is the raw material for numerous leading industries in this country.

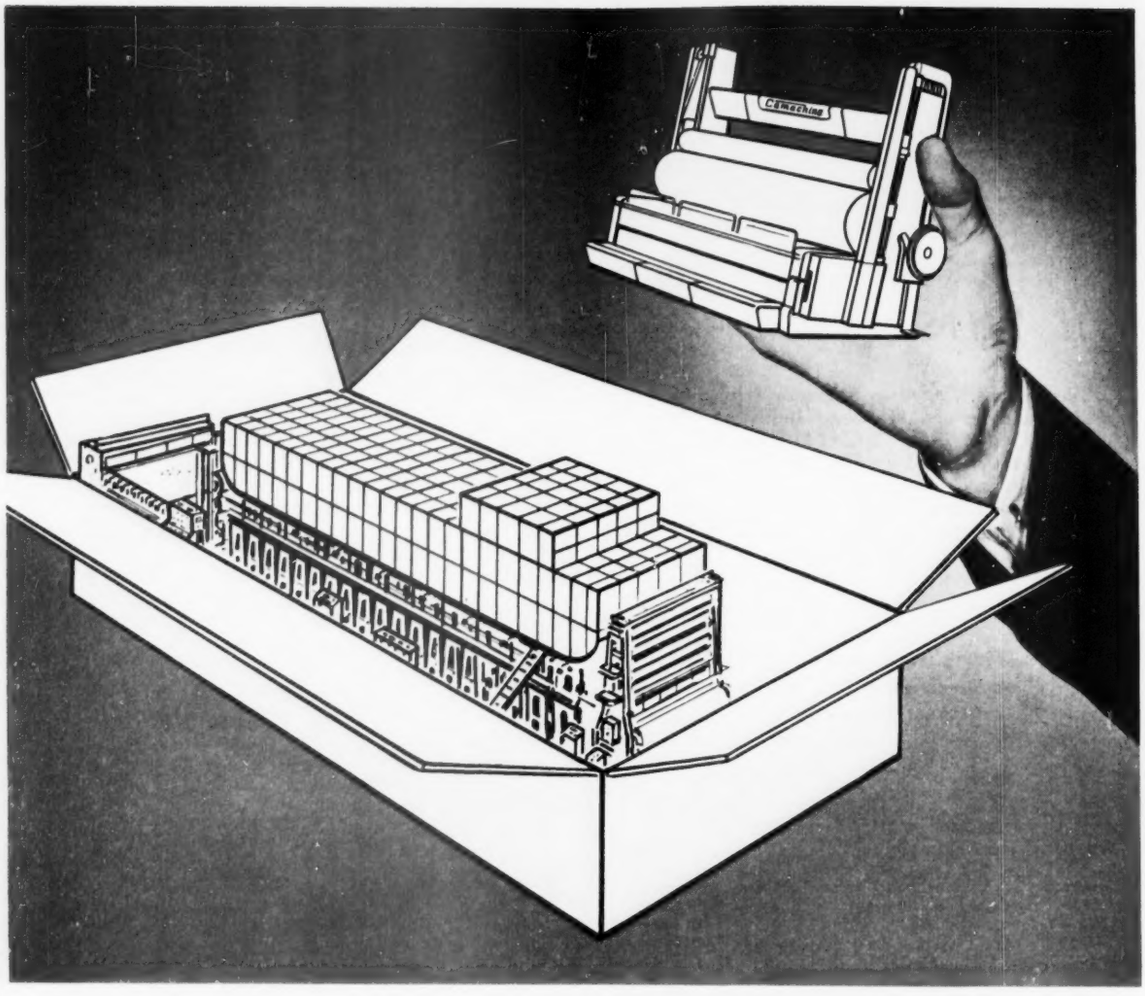
"This important industry didn't just sprout—like a young Douglas fir on a Pacific Northwest tree farm. It was spoon-fed and nursed from infancy to its present healthy state by research and development. Much of what we know today about cellulose has been learned only within the past 20 years or so.

"Chemists and scientists are looking continuously for better production methods and more uses for this versatile raw material. Their combined efforts have already resulted in improved pulp, new pulp sources, new pulp products and expanded markets for pulp."

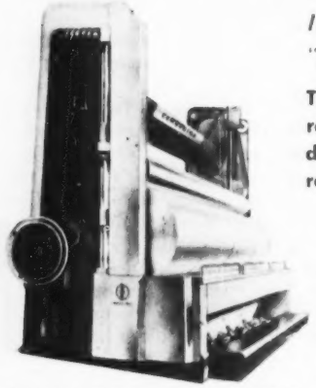
—*Weyerhaeuser Magazine*

## Here's Something to Sink Your Axe In!

One of the most respected prognosticators of woodpulp and paper trends in North America says that by 1975 this continent will be producing two and one-half times the wood products it is now producing. "The only thing that worries me," he added, "Maybe I have underestimated the production."



# HOW IMPORTANT IS THE WINDER?



*Investigate Cameron's new* IMPERIAL *ultra modern, high-speed mill-type winders, featuring hydraulic controls.*

*It is sometimes expedient to purchase a winder as part of an overall paper mill "package". Even so, there's no need to wind up with less than a Camachine . . .*

**The winder is important enough to warrant consideration as a distinct and separate production unit, even when purchased as a part of the mill "package". The dependability of a Camachine winder and the fine quality of Camachine-made rolls reflect importantly upon the dependability and quality of your entire operation.**

Why do more than half of the mills in the United States and Canada insist on Camachines for top-quality winding? One reason is found in the highly specialized skills of Cameron engineers and artisans. Here, the undivided attention of every man is concentrated exclusively on the single problem of better roll production equipment. Consider, too, the advantage of Cameron's background of half-a-century of specialized experience. No wonder modern Camachines are so far ahead in speed, dependability, economy and winding quality! You are invited to consult with Cameron engineers regarding the right equipment to meet your requirements.

**CAMERON MACHINE COMPANY • 61 POPLAR STREET • BROOKLYN 1, N. Y.**

**Don't wind up with less than a Camachine®**

AA-282

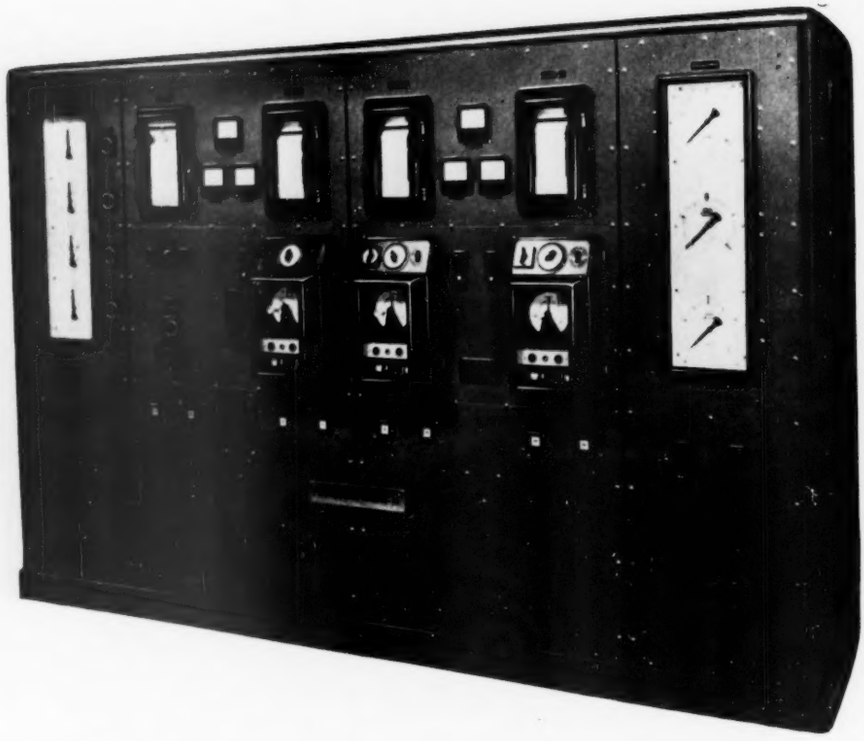
# HAVE YOU ANY PROBLEMS?

Hygrotester
most important since 1932

**TESTING AND REGULATING**

## MOISTURE • WEIGHT • THICKNESS

**THIS HYGROTESTER** equipment automatically controls all cylinders in the wet sections of a paperboard machine, the head box by regulating the valves of the stock boxes, moisture contents after glazing by regulating the steam of the first part of the dry end, moisture contents at the end by regulating the second part of the dry end, and at the same time measures thickness across the entire sheet. *All measuring heads are automatically traversing across the sheet.*
*This is the most modern and complete equipment designed to-date for control of moisture, basis-weight and thickness.*



Since the establishing of this Corporation 6 months ago orders for installation of HYGROTESTER Instruments on 35 Paper-, Pulp-, and Cardboard-Machines have been received of which more than half have been executed to-date.

Moisture measuring instruments of almost all types are in operation in U.S. now, i.e. with automatically traversing capacitor as well as manually operated capacitor. Special installations have also been made on Super-Calenders. The first fully-automatic regulating instruments for basis-weight will be installed in USA toward the end of 1953.

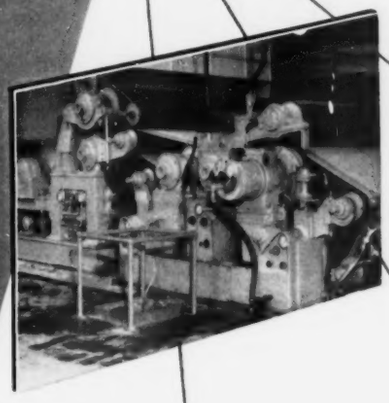
# HYGROTESTER INC.

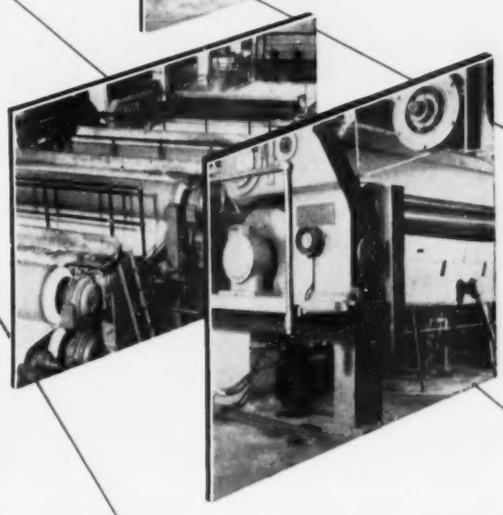
**BROOKLYN 1, N. Y.**
**P. O. BOX 923**
101 HENRY STREET
CABLE ADDRESS:
HYGROTEST NEW YORK
Tel. ULster 2-8464

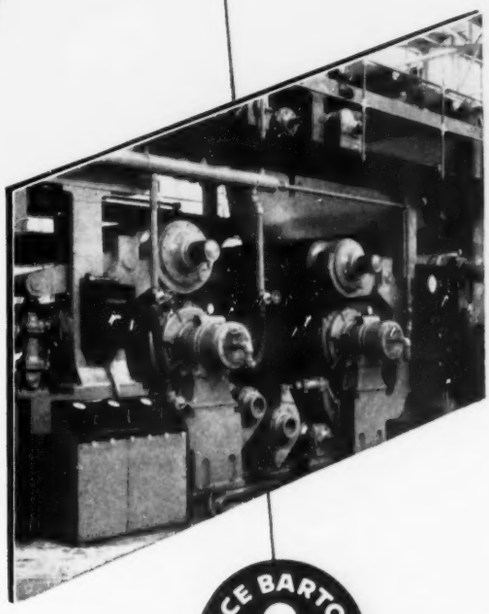
**INDUSTRIAL TESTING AND REGULATING EQUIPMENT SYSTEM "LIPPKE"**

Every day over 20 THOUSAND MILES of Paper pass through

# RICE BARTON PRESS SECTIONS!







Dual Presses, Vertical Presses, Multi Presses, Suction Presses, Plain Presses, Heavy Duty Presses, Cloverleaf Presses, Transfer Presses, Reverse Presses, Smooth Presses and Size Presses — Rice Barton makes them all.

Day after day Rice Barton Press-Sections for all types of paper deliver the consistent, good performance, which paper men have come to expect of Rice Barton machinery.

The finest workmanship, the best of materials and 116 years of designing and manufacturing experience, combine to give you the BEST, when you buy Rice Barton.

RB11-53

## RICE BARTON CORPORATION

Worcester, Massachusetts

*Paper Machine Builders Since 1837*

West Coast Distributor: Ray Smythe • • 501 Park Building • Portland, Oregon

# carloads of CHIPS from mill waste!

## SUMNER Chippers Enable Mills to Explore This Expanding Source of Pulping CHIPS

**Each day** scores of rail cars, trucks and barges are carrying high-quality pulping chips, produced out of wood waste by SUMNER Chippers, from sawmills to pulp mills throughout the Western timber areas.

This new source of clean and uniform chips should be of interest to you as a progressive pulp or board mill operator. You not only add to your chip supply, but also preserve your standing timber for further growth.

Your chipping requirements or those of your chip supplier can be met by one or more of the SUMNER standard wastewood chippers with 53", 66" or 72" disc-diameters.

At your request, detailed information on all SUMNER equipment will be gladly furnished.

Designers and Builders of Pulp and Paper Mill, Sawmill, Boardmill and Shingle Mill Equipment

ESTABLISHED 1892

**SUMNER IRON WORKS**

EVERETT, WASHINGTON

IN CANADA: CANADIAN SUMNER IRON WORKS LTD. VANCOUVER B.C.

# *Asten* DRYER FELTS


## No sleight of hand!

There's more than meets the eye in an ASTEN. There is *built-in* quality that pays off in longer life and increased production.

*Economy in the long run*

**ASTEN-HILL MFG. CO.**
PHILADELPHIA, PENNA.

**ASTEN-HILL LIMITED**
VALLEYFIELD, QUEBEC

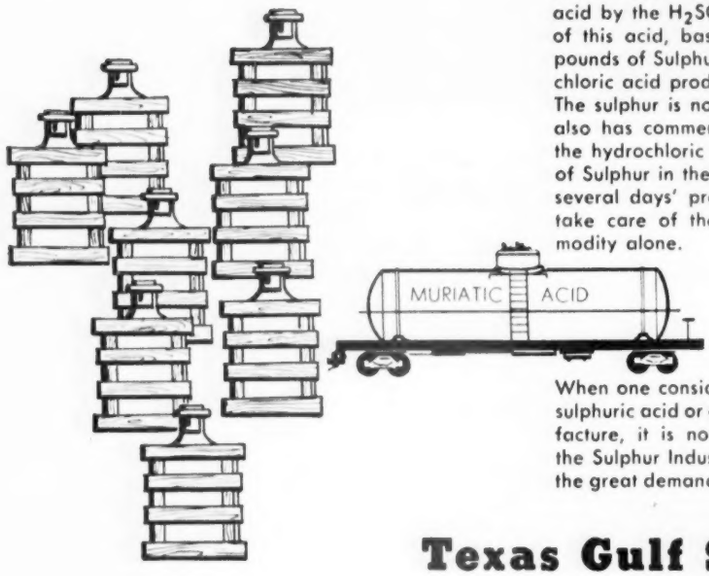
# Sulphur

*Loading a ship with Sulphur at Galveston*

***Thousands of tons mined daily, but where does it all go?***

PARAPHRASING an old saying: 'It takes a chemical to make a chemical,' certainly applies to hydrochloric acid.

No chemical engineer has to be told how hydrochloric acid is made but sometimes with the mind focussed on the word "hydrochloric" little thought is given to another word "sulphuric." It is this word that calls attention to the fact that to make one net ton of 20° Bé hydrochloric acid by the $H_2SO_4$ process requires about 950 pounds of this acid, basis 100%, which is equivalent to 320 pounds of Sulphur. About one third of the annual hydrochloric acid production is made by the use of sulphuric. The sulphur is not lost because salt cake, a by-product, also has commercial value. But any way you figure it, the hydrochloric acid industry is an important consumer of Sulphur in the form of sulphuric acid. In fact, it takes several days' production from all the Sulphur mines to take care of the annual production of this one commodity alone.



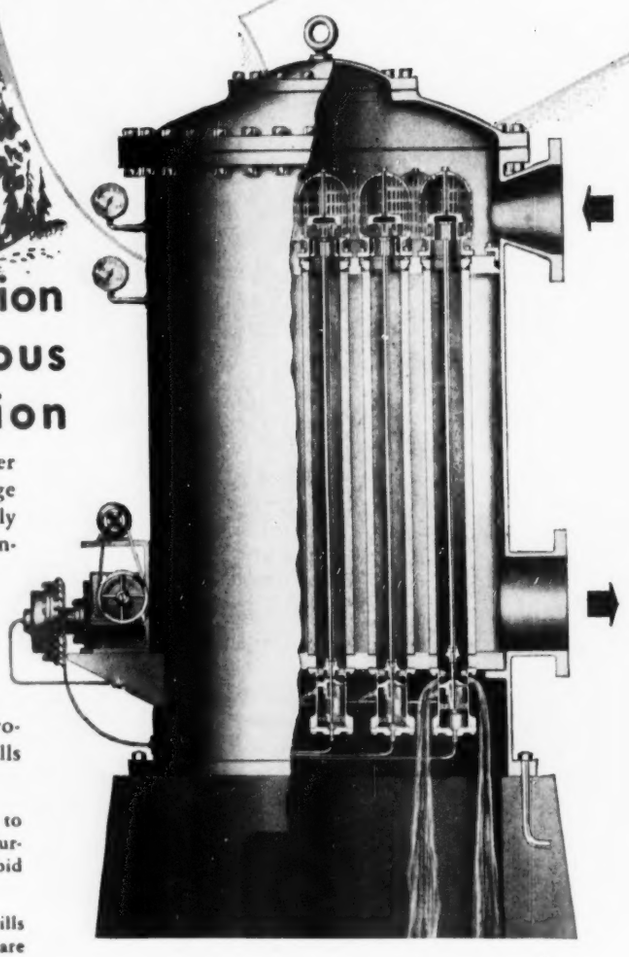

When one considers all the other chemicals that require sulphuric acid or other Sulphur compounds for their manufacture, it is not difficult to appreciate how faithfully the Sulphur Industry is serving industry today in spite of the great demands made upon it.

**Texas Gulf Sulphur Co.**

75 East 45th Street, New York 17, N. Y.

Mines: Newgulf and Moss Bluff, Texas

# LESS DOWNTIME . .
# MORE PAPER
## with
# ADAMS
## AUTOMATICALLY FILTERED WATER



## Continuous protection for your continuous machine operation

Higher production goals of today's faster machines must be protected—continuously. Large volumes of water, carrying proportionately larger amounts of impurities, need more attention than ever before.

Clean, automatically filtered water can eliminate down time due to plugged shower nozzles, helps avoid mid-week shutdowns for washing clogged felts.

Experience with Adams Poro-Screen and Poro-Stone Water Filters in pulp and paper mills from coast to coast has proved:

1. Continuous filtration can be relied upon to remove all objectionable impurities, even during seasonal conditions of highly turbid supply.
2. Production continues in Adams-equipped mills when others using the same water source are shut down for cleaning.

*Write for your copy of the new 20 page booklet on water filtration in the Pulp and Paper Industry, Bulletin No. 691.*

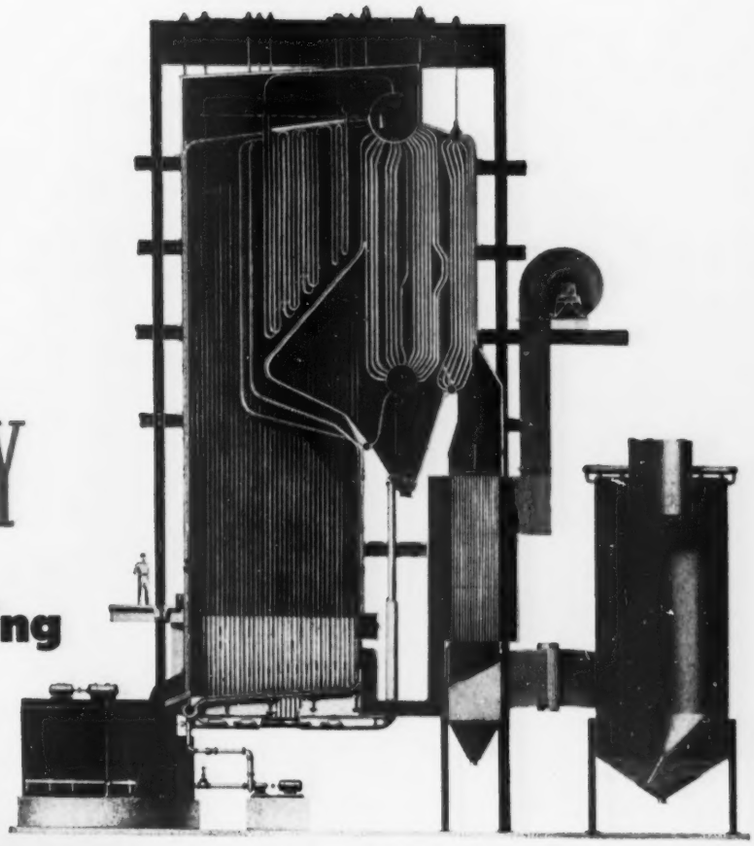
## R. P. ADAMS COMPANY, INC.

**210 EAST PARK DRIVE, BUFFALO 17, N. Y.**

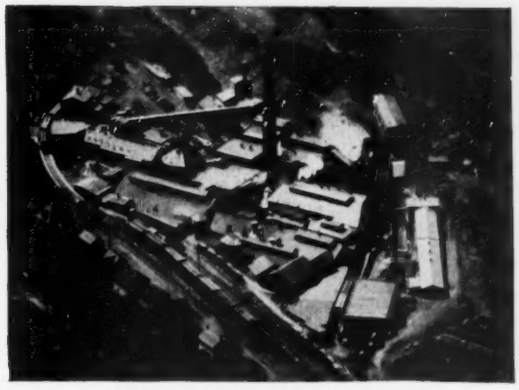
# RECOVERY

at

## Roaring Spring



Typical B&W Black Liquor Recovery Unit



Airview of Roaring Spring, Pa., plant of
The D. M. Bare Paper Company

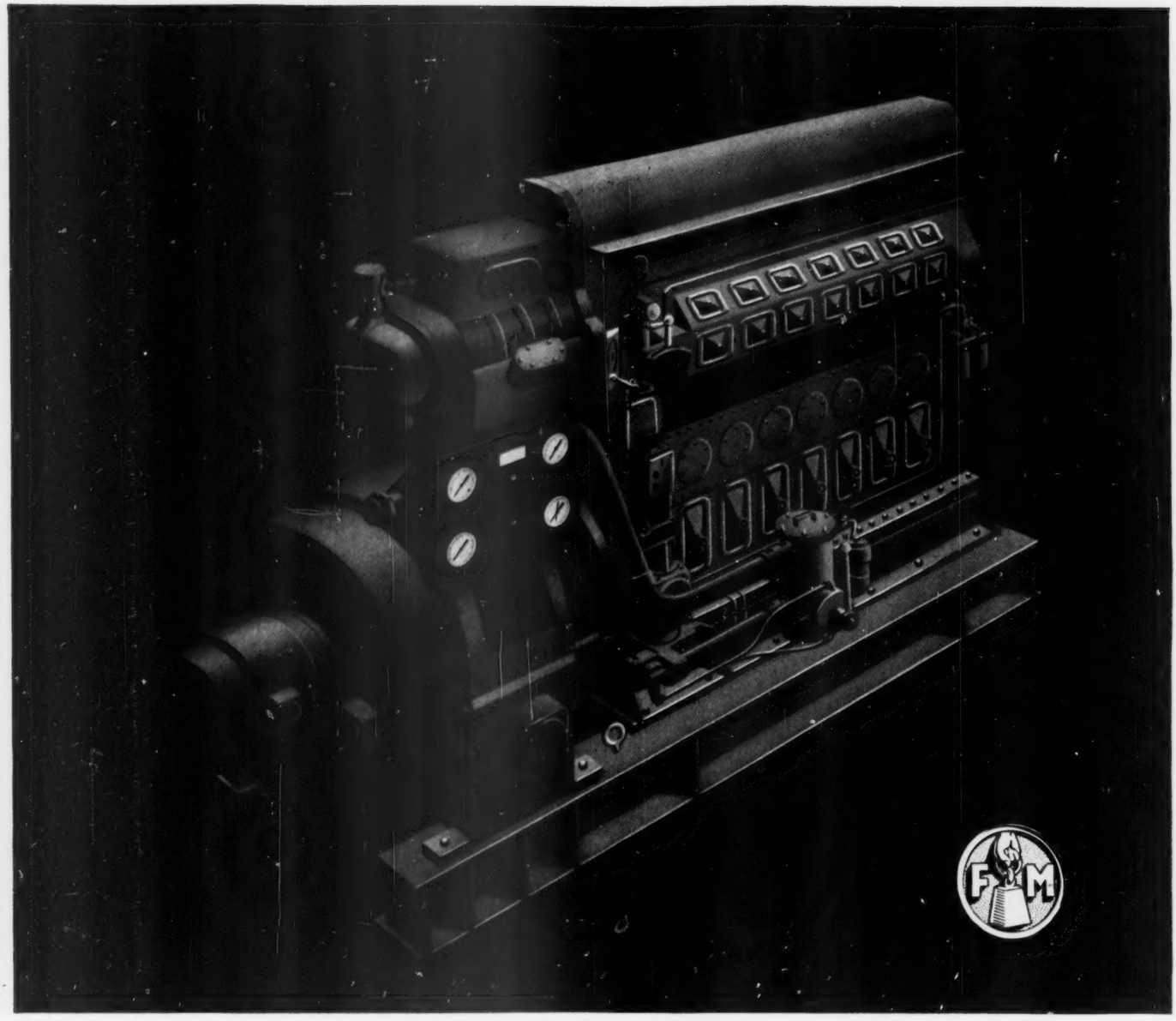
The modernized Kraft mill now under construction at Roaring Spring, Penna., will put The D. M. Bare Paper Company back into pulp production, interrupted since 1951. Chemical and heat recovery will be provided by a modern 83-ton B&W Recovery Unit.

Choice of B&W equipment for this new mill further confirms B&W's ability to design and build efficient recovery boilers for large, medium, or small pulp mills. Foresighted engineering, unexcelled facilities, and many years of experience in meeting unusual requirements, form the base upon which the industry-wide reputation of B&W Recovery Units rests.

The Babcock & Wilcox Co., Boiler Division,
161 East 42nd St., New York 17, N. Y.

BABCOCK & WILCOX

P-773



The Fairbanks-Morse Opposed Piston Diesel Model 38F 5¼. 225 to 750 horsepower.
Diesel Dual Fuel and Spark-ignition options.
Other O-P engines available in horsepower ratings to 2400.

## . . . the price is more but the cost is less

You can buy many diesels for a little less than this Fairbanks-Morse OPPOSED PISTON Diesel . . . but no engine working at rated load can deliver power more reliably at less cost. The slightly higher price is quickly offset by the freedom from maintenance and service interruptions.

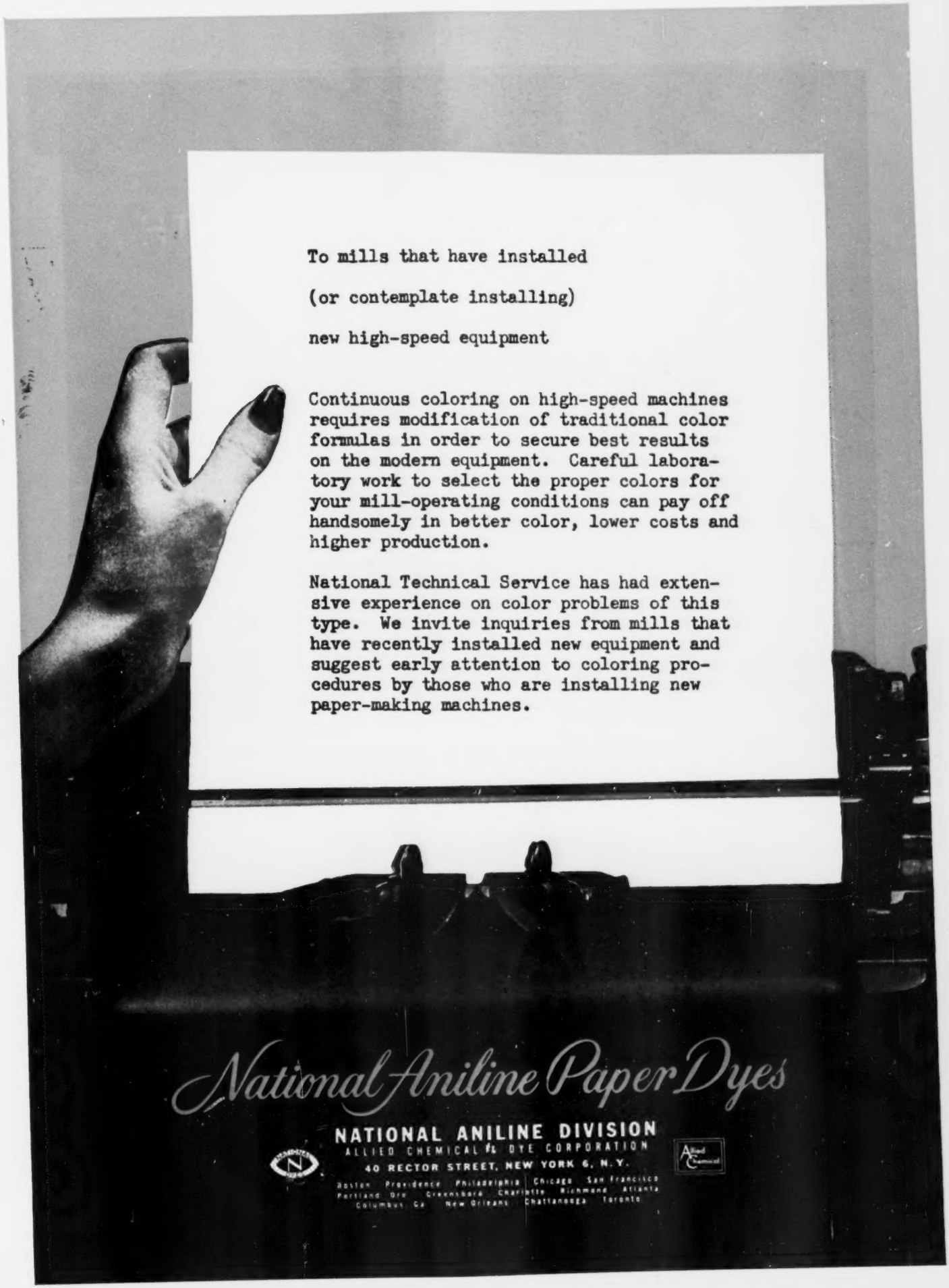
More engine hours of unfailing service mean fewer man-hours in maintenance and repair.

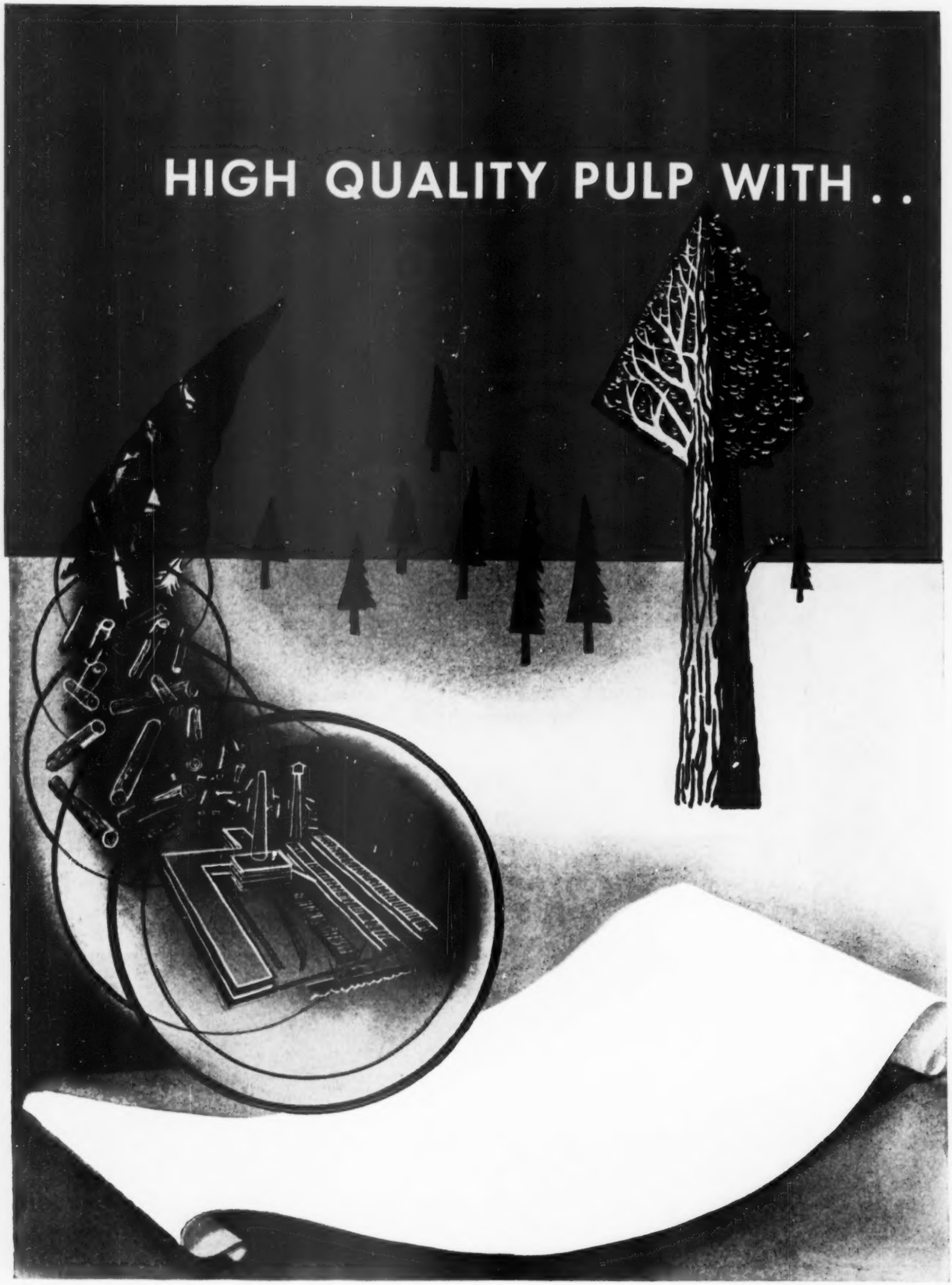
Fairbanks, Morse & Co., Chicago 5, Illinois

**FAIRBANKS-MORSE**

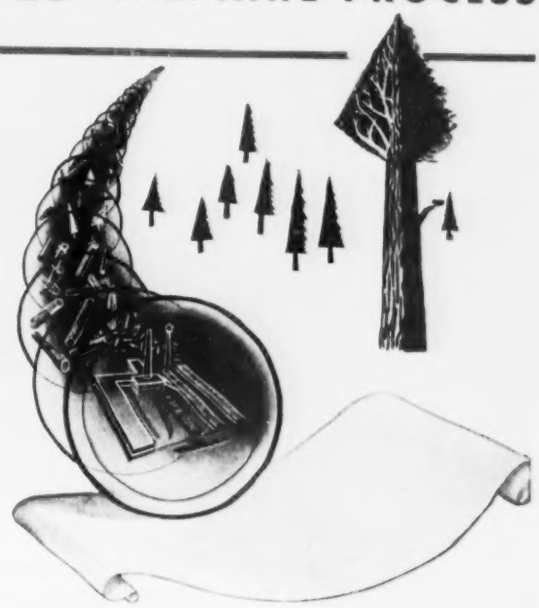
*a name worth remembering when you want the best*

DIESEL AND DUAL FUEL ENGINES • DIESEL LOCOMOTIVES • RAIL CARS • ELECTRICAL MACHINERY • PUMPS • SCALES • HOME WATER SERVICE EQUIPMENT • FARM MACHINERY • MAGNETOS


To mills that have installed
(or contemplate installing)
new high-speed equipment
Continuous coloring on high-speed machines requires modification of traditional color formulas in order to secure best results on the modern equipment. Careful laboratory work to select the proper colors for your mill-operating conditions can pay off handsomely in better color, lower costs and higher production.
National Technical Service has had extensive experience on color problems of this type. We invite inquiries from mills that have recently installed new equipment and suggest early attention to coloring procedures by those who are installing new paper-making machines.
National Aniline Paper Dyes
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N.Y.
Boston Providence Philadelphia Chicago San Francisco
Portland Ore. Greensboro Charlotte Richmond Atlanta
Columbus Ga. New Orleans Chattanooga Toronto


HIGH QUALITY PULP WITH . .

# ..SUTHERLAND
# HIGH YIELD SULPHATE PROCESS



## WHAT IT IS

A revolutionary new method for the production of high quality kraft pulp at yields considerably above any possible in conventional kraft production.

## HOW IT WORKS

A high yield pulp is first obtained by heating pieces of wood in an alkaline cooking liquor under limited conditions of temperature, time and alkali concentration such that a pulp is formed consisting of a high percentage of fiber bundles which are not substantially separated. This limited cook is blown from the digester to a blow tank where it is diluted to refining consistency by addition of hot alkaline wash liquor. The diluted pulp suspension is then refined while hot and the refined pulp is washed. The hot alkaline wash liquor is recovered for use in the dilution step.

## RESULTS

Mills using this process have reported a 15 to 20% increase in yield over normal operation, and substantial reduction in operating costs as a result of savings in wood. In addition to substantially increased profits, the new process marks a major step forward in wood conservation.

## APPLICATIONS

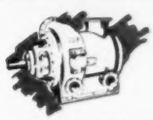
The Sutherland High Yield Process is being used for the production of high yield linerboard and will, in the near future, be applied to other unbleached grades. Bleaching of high yield pulps is a possibility and does result in a marked increase in yield, although at the present cost of wood and chemicals, it does not offer the savings possible in unbleached grades. The use of this system for bleached pulps will follow a natural development course in the foreseeable future.

## PATENT

U. S. Patent No. 2,591,106, dated April 1, 1952, has been issued covering this process. While this patent in no way limits the user of the process in his choice of equipment, it does limit the use of the process to licensees of the Sutherland Refiner Corporation. Licenses are available to qualified mills on application to Sutherland Refiner Corporation.

**SUTHERLAND REFINER CORPORATION**

TRENTON 8, NEW JERSEY



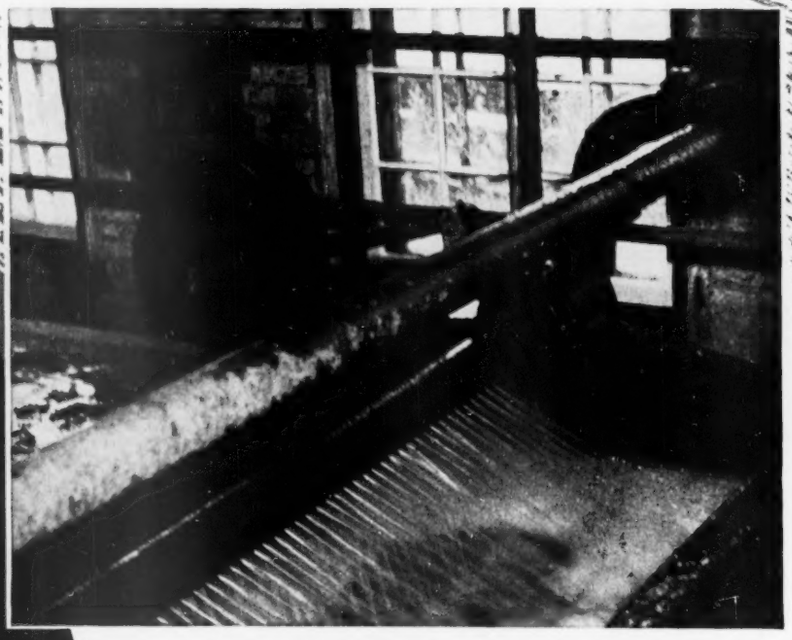
BREAKER TRAPS

PRESSURE WASHING

HIGH YIELD SYSTEMS

MANUFACTURED BY—
VALLEY IRON WORKS CO., APPLETON, WISCONSIN

# REVOLUTIONIZING
## the operation of Flat Screens



**Fedralco Karlstrom Persson Water Distribution System for Flat Screens**

### ATTENTION! BOARD MILL OPERATORS

At present in operation in several mills in Canada, the Karlstrom Persson Shower is proving to be one of the greatest innovations in the Pulp and Paper industry. Consisting of a perforated pipe extending the whole length of the screens, oscillated at a slow speed, the Karlstrom Persson Shower operates at very low water pressure and distributes water over the entire surface of screens, breaking up fibre bundles and separating them out for more complete screening.

**NO CLOGGED PLATES**

Screening is free and complete. The plates are washed clean, leaving no matted fibre to dry and plug the slots during shut-downs and interruptions. They are ready to screen immediately.

**CLEANER SCREENING**

Because of free and proper screening, high pressure hosing is eliminated. Dirt is not driven through the plates, nor is good fibre flushed out with the tailings.

**LOWER COSTS**

With free screening, and little or no hosing required, labour costs are greatly reduced. The saving in labour alone can pay for this equipment in a comparatively short time.

**HIGHER PRODUCTION**

Because plates are kept clean and screening continuously at maximum efficiency, greatly increased production is obtained.

References as to the success of present installations are available on request.

FEDRALCO

*Manufactured in Canada by*

**UNION SCREEN PLATE CO. OF CANADA LIMITED**

*Sold and distributed by*

**THE FEDERAL MACHINERY & MANUFACTURING COMPANY LTD.**

72 QUEEN STREET LENNOXVILLE, QUEBEC, CANADA

# How to pull dollars out of a hatbox

**STORE OWNERS PAY PREMIUM PRICES** for hatboxes that draw trade to their stores. They know that a smart-looking woman carrying a hatbox gets attention. They want hatboxes with prominent store identification—colored in a way that makes them recognizable at a glance.

What holds true for the hatbox can be applied to all other kinds of packaging material you sell—wrapping paper, bags, boxes and gummed tape. By preparing a color that looks "tailor-made" for a store, you can be sure that your efforts will bring in *new* orders and *re*-orders for you. For COLOR makes packages into *walking advertisements* for the store!

To help you give distinctive wrappings to your customers, Du Pont offers hundreds of shades of colors that you can sell. And Du Pont will give you technical service that will help you select the right dye. For more information, write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

**FOR MAXIMUM ECONOMY**
Du Pont basic dyes

**FOR MAXIMUM SOLUBILITY**
Du Pont acid dyes

**FOR MAXIMUM LIGHT FASTNESS**
Du Pont dispersed organic pigments:
Monastral* Fast Blues  Monastral* Fast Greens  Lithosol* Pigments

*REG. U. S. PAT. OFF.

**More color makes more business... for your customers and you**

*Du Pont Dyes*

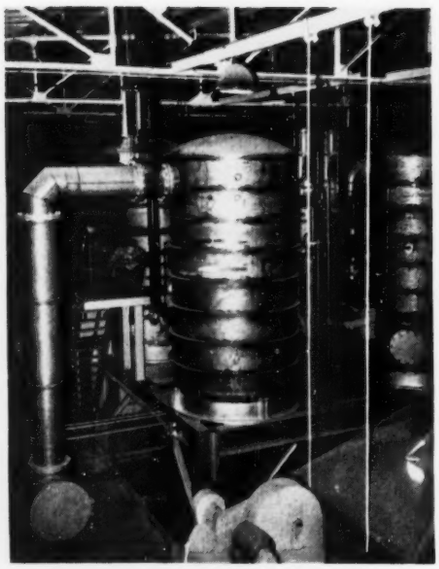
DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING... *THROUGH CHEMISTRY*

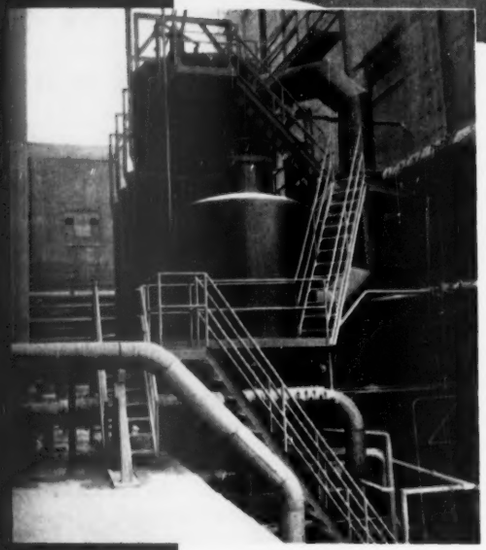
dependable process equipment built to fit your needs

# CONKEY EVAPORATORS

## for waste liquor concentration



**FOR WASTE SULPHITE LIQUOR**—Conkey Flat Plate Evaporator with Rosenblad Switching System is noted for continuous evaporation of sulphite pulp mill waste liquors. Self-cleansing action washes away accumulated scale by condensate wash of *all* parts, making possible continuous capacity operation.



**FOR BLACK LIQUOR**—Conkey Long Tube Film Type Evaporator is widely used for waste liquors whose concentration does not require mechanical cleaning of heating surfaces for scale removal. Provides a net positive gain in evaporation by reducing pressure drop losses between effects.

PROCESS EQUIPMENT DIVISION
GENERAL AMERICAN

**Process Equipment Division**

*Send for latest bulletin on Evaporators*

**GENERAL AMERICAN TRANSPORTATION CORPORATION**

**Sales Office:** 10 East 49th Street, New York 17, New York
**General Offices:** 135 South La Salle Street, Chicago 90, Illinois
**In Canada:** Canadian Locomotive Company, Ltd., Kingston, Ontario
**OFFICES IN ALL PRINCIPAL CITIES**

# Whatever the Jordan, you need BOLTON

Mill operators who know quality choose **Bolton Fillings** regardless of the make, type or size Jordans they use. Why **Bolton?** Check the reason:

**PATTERNS:** **Bolton** has patterns of all Jordan plugs and shells currently in mill use in Wedgeless, Ring Type or specially designed plugs and Standard or Special Hydro Truss Assembled Shell Fillings. Proper fit is assured.

**MATERIALS:**

Fillings in Special Heat-Treated Steel, Stainless Steel, Phosphor Bronze and other special alloys

for

**ALL MAKES AND SIZES OF JORDANS**

**KNIVES:**
In any shape or size you wish — single, duplex or special arrangement, all widths, all designs, for brushing and cutting and all variations in between.

**WOODS:**
All are supplied with our own selected kiln dried plug woods in oak or maple, South American hard wood or special material separators.


**QUALITY:** From selection of raw materials to finished product rigid control and scientific heat treating are maintained in our own plant. The result is uniform, superlative quality and long life.

**BOLTON FILLINGS for Beaters and Washers: Beater Roll Fly Bars and Woods** — same uniform quality, all sizes, all makes, in Regular Heat-Treated Steel, Alloy Steel, Stainless Steel, Bolton Special Stainless and Phosphor Bronze.

Also, **Bolton Special Stainless** welded to a soft steel backing made by an exclusive Bolton process. This provides long life, acid-resisting stainless steel at the wearing part of the bar and a soft steel backing, which resists shock and prevents ear breakage to a marked degree.

**Roll Woods** are of selected stock — one, two, three piece or special type uniformly kiln dried.

***Further details furnished on request***

## John W. BOLTON & Sons, Inc.

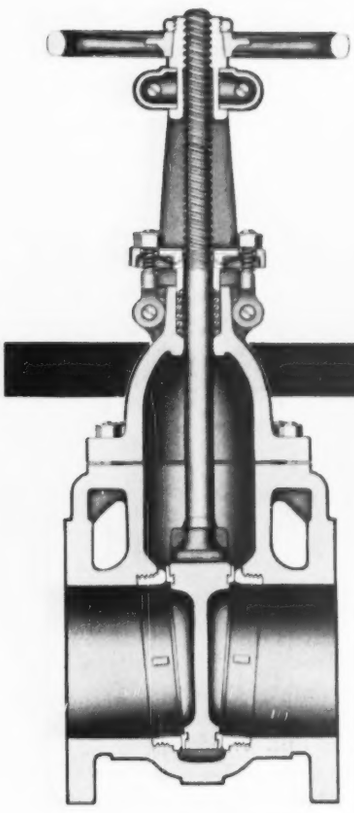
**EMERSON MANUFACTURING DIVISION**

**Lawrence, Massachusetts, U. S. A.**

seating surfaces stay

# Slick as a Whistle

## ...in CRANE 18-8 Mo ALLOY TRIMMED ALLOY CAST IRON GATE VALVES



Cross-Section No. 14477
Crane Alloy Cast Iron Wedge Gate
18-8 Mo Alloy Trimmed
Flanged Ends
WORKING PRESSURES: 200 pounds cold water, oil, or gas, non-shock.
Sizes: 2, 2½, 3, 4, 6, 8, 10, 12, 14, 16 and 18 in.

This is the valve that cancels out seating surface corrosion economically in many piping processes. Its seats, disc, and stem are Crane 18-8 Mo alloy steel—an exceptionally high-grade stainless steel, highly resistant to most corrosive fluids.

**NOW IN SIZES UP TO 18 INCHES**

You'll recognize this valve pattern. It's the same as the famous Crane all-iron wedge gate, with the same liberal metal sections for maximum strength, and with tie-ribs on bonnet and end flanges for extra resistance to line strains. The big difference in these No. 14477 valves is: the body and bonnet are nickel low alloy cast iron, having much better physical properties and corrosion resistance than ordinary cast iron.

### TYPICAL APPLICATIONS

In the *Petroleum* industry, these valves are giving outstanding service on oils with traces of mineral acids . . . in *Wood Treating*, on creosote vapors and oils . . . in *Pulp and Paper* processing, on alkaline liquors of various kinds. In fact, No. 14477 valves are ideal for mildly corrosive services where all-iron valves are inadequate but where it is uneconomical to use all-stainless steel valves.

A new circular on No. 14477 gives complete specifications and lists new sizes available. Write direct, or ask your Crane Representative for a copy.


*THE BETTER QUALITY... BIGGER VALUE LINE... IN BRASS, STEEL, IRON*

# CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
*Branches and Wholesalers Serving All Industrial Areas*

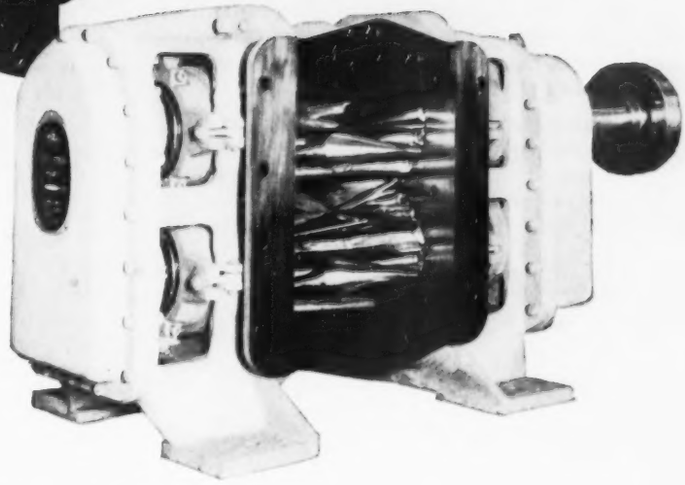
***VALVES • FITTINGS • PIPE • PLUMBING • HEATING***

# THICK STOCK PUMP


## PUMPING 10%-17% PULP

IMPCO

## SERIES - 300 *
## SERIES - 500 *



**This unit is a positive displacement type pump specifically designed to handle pulps at high densities. The conical profile of its synchronous rotors permits the pumping of stock at densities above 10% A.D.—with lowest horsepower per ton—and no fibre damage. Truly the modern way to handle all types of pulp.**

***Tons per day**

IMPROVED MACHINERY INC. J-35

NASHUA, NEW HAMPSHIRE

**Sherbrooke Machineries Limited manufacture similar equipment in Canada.**

# Should Your Mill Switch To Ammonium Bisulphite Pulping?

***Among the major advantages are faster cooking, increased yields, elimination of scale, decreased chemical requirements, and the ability to pulp hardwoods***

**By Gordon A. Crowe**

*Technical Service Representative*
Spencer Chemical Co.
Kansas City, Mo.

**Ammonium bisulphite pulping** is currently a subject of considerable interest to the management of many leading mills in this country. At the present time nine mills, representing a pulp capacity of over 1,200 tons per day, are operating on ammonia base. Other companies are presently conducting tests to help determine what their future course will be. Since ammonium bisulphite pulping certainly is not a new idea, why this sudden interest?

**The explanation** seems to break down into three parts: Availability, Cost and Waste Disposal.

**Availability.** There has been and still is a shortage of ammonia. However, indications are that adequate and reliable supplies will be available to the paper industry soon.

**Cost.** There is no doubt that ammonium bisulphite acid costs more per gallon than calcium bisulphite acid. This was once considered a serious disadvantage. We now know, however, that the difference is usually more than offset by savings made possible by the use of ammonia.

**Waste Disposal.** Many companies are giving serious consideration to the evaporation and burning of waste liquor. Because of scaling in the evaporator and fly ash from the boiler, calcium liquors present a more difficult disposal problem than do ammonia liquors.

**Because operating conditions** at different mills vary widely, it is usually advisable to make a test run before committing a plant to operation on ammonia base. Engineering assistance is available from the technical service sections of major ammonia suppliers.

Gordon A. Crowe

**Conclusions** reached by one mill which conducted a 23-day ammonia test run were:

1. Ammonia base pulp gave increased yields when the regular mixture of softwoods was used.
2. Cooking time for softwoods was reduced by at least one hour.
3. Pulp quality was as good as and probably slightly better than the regular calcium base pulp.
4. A mixture of hardwoods (beech, birch and maple) can be cooked in seven hours or less.
5. The use of a small percentage of hardwoods will pay for the increased cost of ammonia base.
6. Digester operation is more uniform when ammonia is used due to clean circulating systems.
7. Bleaching time and chemical requirements can be reduced when the pulp is made from ammonia base acid.

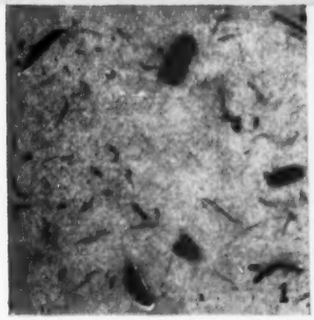
**If you have a question** about Ammonium Bisulphite pulping, we'll be glad to hear from you. There is no charge or obligation for this service. Just write: Technical Service Section, Spencer Chemical Company, Dwight Bldg., Kansas City 5, Missouri.

# There is only one BEST!

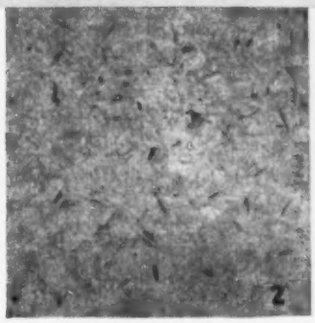
**CURLATOR is the ONLY Mechanical Device that will produce from fine screen rejects**

- ✓ A CLEANER PULP
- ✓ OF INCREASED YIELD
- ✓ WITH INCREASED TEARING STRENGTH
- ✓ WITHOUT AFFECTING FIBER LENGTH

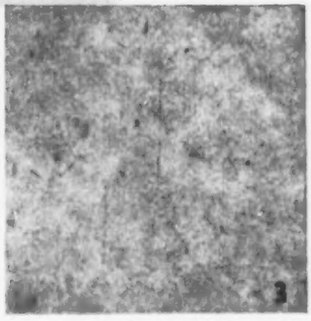
**SEE THE DIFFERENCE... These unretouched photographs are actual size.**



*Paper made with fine screen rejects. Note dirt, shives and large fiber bundles.*



*Paper made with rescreened rejects. Only the largest particles, 8% of the rejects, are removed. Note the large number of shives which passed through the screen.*



*Paper made with screened, Curlated rejects. 99.4% of the fine screen rejects are in this sheet. Note improvement in cleanliness as a result of Curlation.*

*Write* for more detailed information. See the results obtained from your own pulp.

Actual mill operation proves Curlation eliminates shives and separates the individual fiber bundles, as well as reducing the sizes of dirt particles. This permits a large portion of the dirt to be removed during washing and thickening operations.

Curlation increases yield by converting shives and fiber bundles into No. 1 pulp. With Curlation you no longer have No. 2 pulp and fine screen rejects. Increased yields of 5% are common in many normal pulps.

Curlation imparts a permanent bend and twist to fibers thereby imparting higher tearing strength to paper made from Curlated pulp. Sheet No. 3 has 60% higher tearing strength than sheet No. 2. Curlator patented action rolls fiber and fiber bundles under pressure without reducing fiber length. Curlation does not cut the fibers.

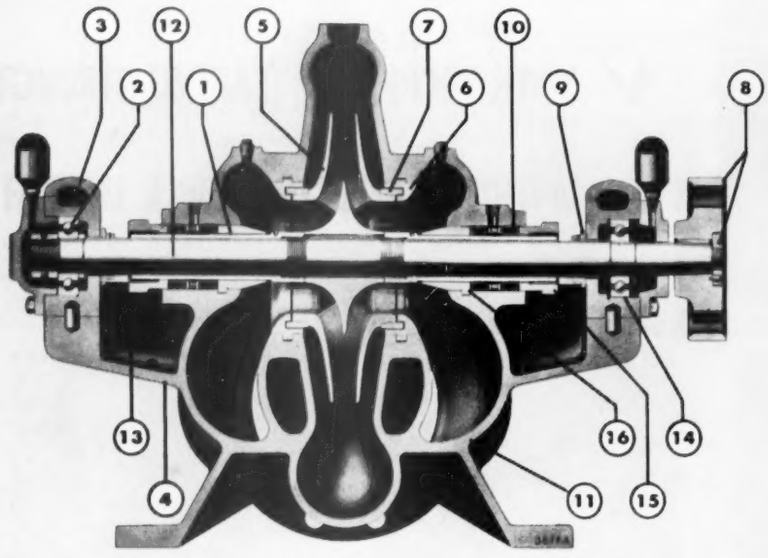
**CURLATOR†**
*Corporation*
EAST ROCHESTER, NEW YORK

**Canadian Representative—**
**Homad Services, Ltd., Montreal**

†T. M. Reg.—Curlator Corporation, Rochester, N. Y.

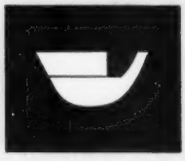
# DE LAVAL
## SINGLE STAGE CENTRIFUGAL PUMPS

*for dependable industrial service*




**Labyrinth wearing rings minimize leakage...maintain high efficiencies**

Labyrinth rings used in these De Laval pumps retard flow of water through labyrinth passage.



Flat rings showing relatively unimpeded flow of water.

(1) **Shaft Sleeves** are screwed on, to abut the impeller and make a water-tight joint. Sleeve expands freely and independently of shaft when temperatures change. There is no tendency to buckle.

(2) **Thrust Bearing** locates rotor axially.

(3) **Bearing Caps** easily removable for maintenance.

(4) **Bearing Brackets** scraped to lining bars for perfect alignment.

(5) **Impeller** hydraulically balanced, finished on all surfaces.

(6) **Labyrinth Wearing Rings** held accurately in machined grooves in both case and cover.

(7) **Impeller Wearing Rings** threaded on impeller, opposite to rotation.

(8) **Flexible Coupling** ground on all exposed surfaces and statically balanced, complete coupling supplied, pump half mounted on taper so that it can be easily removed. Check nut locks coupling on taper.

(9) **Deflector** keeps water out of bearing.

(10) **Stuffing Boxes** extra deep; lantern rings for water sealing.

(11) **Pump Case** horizontally split; machined to limit gages.

(12) **Steel Shaft** ground to limit gages.

(13) **Drip Boxes** large; provided with drain openings.

(14) **Radial Bearing** free to move axially, thus avoiding temperature strains.

(15) **Glands** split horizontally.

(16) **Protecting Bushings** renewable.

You can count on the performance of the De Laval Single Stage Centrifugal Pumps because they are precision-made to high manufacturing standards and incorporate the many quality design features shown in the cross-section.

They operate at high or low speeds, at high or low heads...with maximum efficiency.

For example, De Laval G, I and K Single Stage Double Suction Pumps have a capacity range of 175 gpm to 6,000 gpm, and heads to 300 feet. They are available in sizes ranging from 4" suction and 3" discharge to 14" suction and 12" discharge. Write for Bulletin 1002.

DeLaval also furnishes larger centrifugals for capacities up to 70,000 gpm.

**DE LAVAL** *Centrifugal Pumps*

DE LAVAL STEAM TURBINE COMPANY

*813 Nottingham Way, Trenton 2, New Jersey*

DL 198

# FIRST
## *in 1000 years*


**NEVER BEFORE,** not even a few short years ago, could the new Fischer & Porter Ratochlor* chlorinator be built!

Why?

Like the jet engine, which could not be born until all the complex alloys and ceramics necessary to resist its great heat were available – like controlled atomic fission, which required complex mathematics and multi-complex mechanics – so the new F & P Ratochlor unit needed many new and complex developments of the laboratory before it could be produced for thoroughly dependable use.

With a cabinet completely formed from polymer-impregnated fiber glass, with Uscolite tubing and fittings, with Kel-F, Teflon, tantalum, and silver components, the 1050 series unit is practically impervious to chlorine corrosion.

Offering complete simplicity of operation and freedom from maintenance problems, the new F & P chlorinator automatically assures maximum water economy over an extra wide flow range.

These are only a few of the many reasons why this new unit is important to every industrial and municipal user of chlorine. It is the result of years of concentration by F & P on the problems inherent in chlorination. Write today for complete descriptive literature which tells the whole story from idea to reality.

**Ratochlor units in F & P Hatboro plant awaiting inspection and test *with chlorine* under actual operating conditions.**

FP

*T.M., F&P Co.

*complete process instrumentation*

**FISCHER & PORTER CO.**

**4410 County Line Road, Hatboro, Penn.**

2240 *Company owned sales and service branches strategically located throughout the world.*

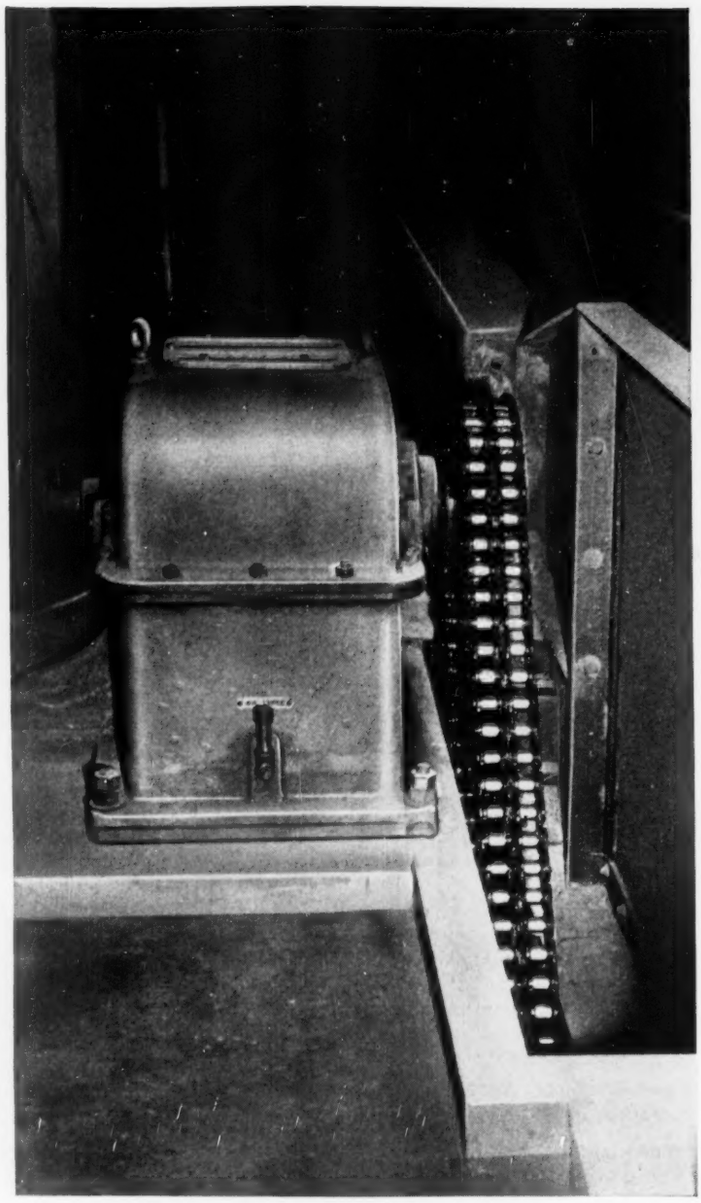
# WANT LONGER LIFE FOR YOUR DRIVES?

## standardize on Baldwin-Rex Roller Chains

Mill after mill is standardizing on Baldwin-Rex Roller Chain for high-speed drives and power take-offs. Experience has shown that you can't beat this precision-built chain as a dependable low-cost method of power transmission.

Built of the finest finished steel to close tolerances with pins and bushings press fitted into the side plates, Baldwin-Rex Chains are designed for longest possible life under the toughest kind of service. They are available in a complete line from ¼" to 2½" pitch in single, double, triple and quadruple strand.

Your Baldwin-Rex Field Sales Engineer is well qualified to help you select the exact size of Baldwin-Rex Roller Chain which will give most years of service at lowest overall cost. Or, if roller chain is not the best answer to your particular application, he'll show you how some other chain from the complete Chain Belt line will give you better service at lower cost. Write for Bulletin 52-2 on Baldwin "BA" Assembly Roller Chain—the chain that is *easy* to couple, uncouple and repair. Or call your nearest Baldwin-Rex Field Engineer. Baldwin-Duckworth Division, Chain Belt Company, 306 S. Plainfield St., Springfield, Mass.



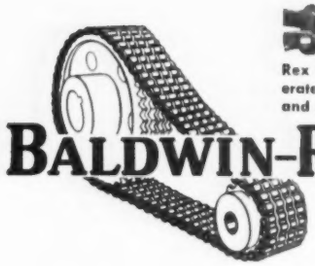
**This sturdy double strand of Baldwin-Rex Roller Chain is driving the feed rolls in the chipper chute. This chain is ideally suited for this heavy duty, grueling service.**

**a few examples from the complete chain belt line**

**Rex H-Type Mill Chain for moderate speed, moderate load drive and conveyor service.**

**Rex Chabelco Chain is designed for very heavy-duty work under severe operating conditions.**

**Rex Wood Chip Idlers are sloped to 45° angles, forming deep trough for large capacity, less spillage.**



**BALDWIN-REX**

**ROLLER CHAINS**

A PRODUCT OF

**Chain Belt COMPANY**

*OF MILWAUKEE*

Atlanta • Baltimore • Birmingham • Boston • Buffalo • Chicago • Cincinnati Cleveland • Dallas • Denver • Detroit • El Paso • Houston • Indianapolis • Jacksonville • Kansas City • Los Angeles • Louisville • Midland, Texas • Milwaukee Minneapolis • New York • Philadelphia • Pittsburgh • Portland, Oregon • Springfield, Mass. • St. Louis • Salt Lake City • San Francisco • Seattle • Tulsa • Worcester

*Distributors in principal cities in the United States and abroad*

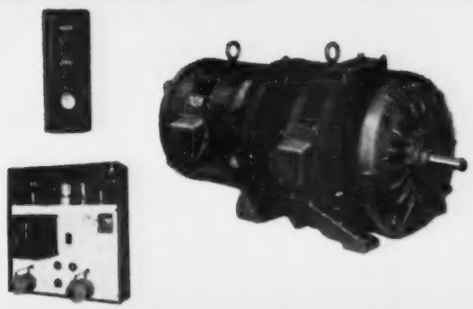
Export Offices: 4800 W. Mitchell St., Milwaukee, and 19 Rector St., New York City

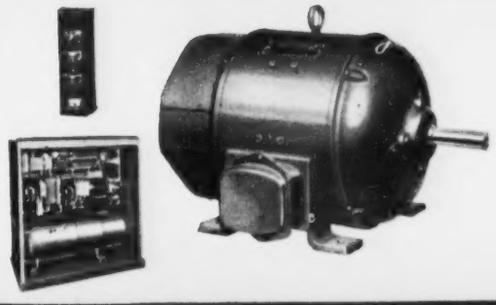
# A Complete adjustable speed line

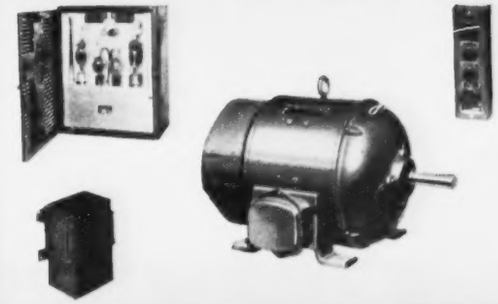
## Get the right answer from Louis Allis

It pays to think first of the Louis Allis Co. whenever you're considering adjustable speed drives for your product or plant. Louis Allis builds all basic types. There's no compromising — from this complete line you can select the unit that's exactly suited to your job conditions and engineered for your application.

For the simplest — and best — solution to any adjustable speed drive problem, call your nearby Louis Allis Sales Engineer, or write to us.







**THE LOUIS ALLIS CO.**
MILWAUKEE 7, WISCONSIN

ASD-101

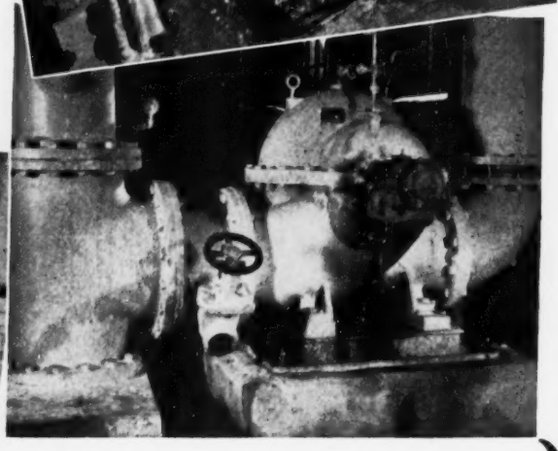
Out Michigan-Wisconsin way, too,

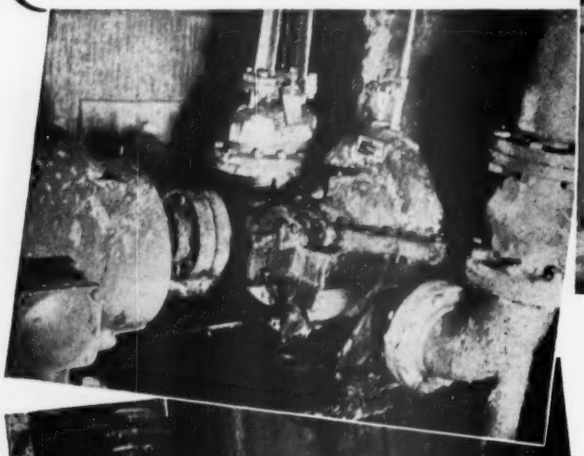
# WARREN PUMPS

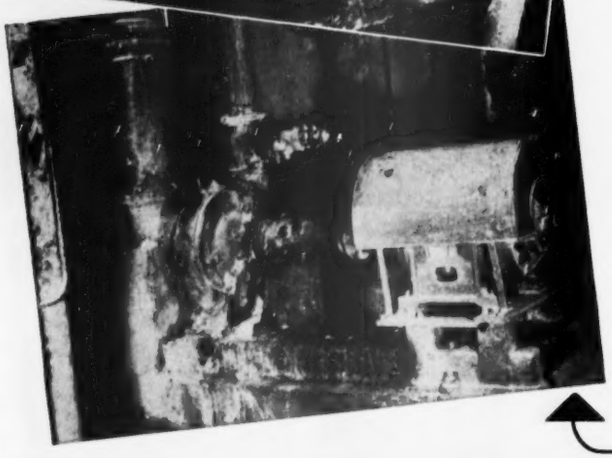
are job-proving themselves

at:

| | | |
|---|---|---|
| Cheboygan | Neenah | Kaukauna |
| Filer City | Oconto Falls | Marinette |
| Menominee | Kalamazoo | Menasha |
| Otsego | Appleton | Mosinee |
| Plainwell | Combined Locks | Nekoosa |
| Port Huron | Eau Claire | Tomahawk |
| Watervliet | Green Bay | etc., etc. |







PROGRESSIVE mills in this important Pulp and Paper Mill producing area, like others throughout the country, select equipment, including *pumps*, upon the basis of job-proven performance, not promises. They have learned from their own experience, as well as that of hundreds of other progressive mill operators, that Warren Pumps have the necessary engineering know-how behind them and can be depended upon to successfully handle the services for which they are built.

*You, too, can with confidence, put your pumping problems up to Warren!*

PP28

# WARREN PUMPS

**WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS**

*Centrifugal . . . . . Reciprocating . . . . . Rotary*

# Industry Leaders Set the Pace with VU

Right down the line, in most every industry, you'll find the leading companies – as well as the smaller companies that may well be tomorrow's leaders – depending on C-E Vertical Unit Boilers for dependable, low-cost steam.

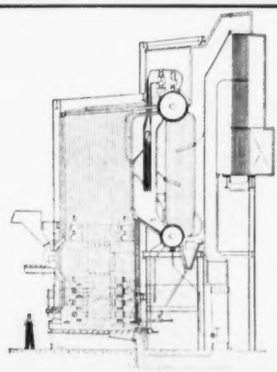
Take Pulp and Paper Mills for example. Few industries use more steam or have a larger stake in the economy and reliability of their steam generating equipment. The list below is just a sample of the nationally-known leaders in the pulp and paper field that have Vertical-Unit Boilers in service at one or more mills.

Only larger companies are listed because here, as in any industry, the buying decisions of big companies are especially significant. Such companies have the breadth of experience, the diversified operating conditions and the organization necessary to explore and evaluate the merits of the equipment they need.

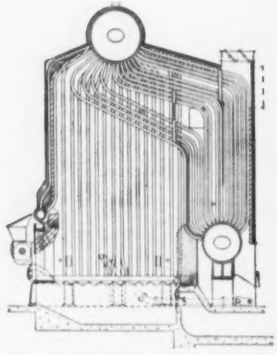
So, where you need boilers – in capacities from 10,000 to 350,000 pounds of steam per hour – take a tip from the leaders. Discover – as they have – the advanced design . . . sound construction . . . proved reliability of C-E Vertical-Unit Boilers.

## Leading Pulp and Paper Mills that have Purchased VU Units for One or more Plants

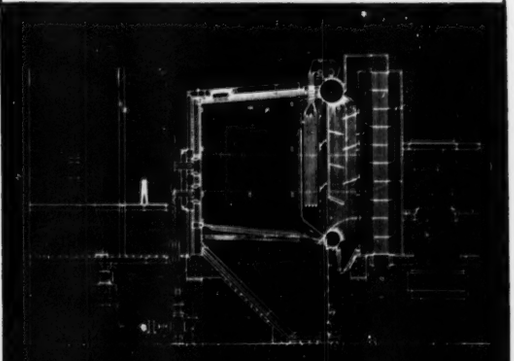
The Brown Company
Chesapeake Corporation
Container Corp. of America
Fraser Companies, Ltd.
Robert Gair Company, Inc.
International Paper Company
Kimberly-Clark Corporation
Macon Kraft Corporation
Marathon Paper Mills of Canada, Ltd.
National Container Corporation
St. Regis Paper Company
Scott Paper Company
S. D. Warren Company
Weyerhauser Timber Company



**VU-50 Boiler** – This unit, one of two duplicates, is installed at a West Coast mill. It is designed to burn hogged wood on a high-set spreader stoker. Capacity – 150,000 lb of steam per hr; operating pressure – 570 psi; steam temperature 675 F.



**VU-10 Boiler,** one of two in a Midwestern plant. Fired by coal, using a C-E Spreader Stoker. Capacity – 18,000 lb of steam per hr at 200 psi; no superheat. VU-10 capacities range from 10,000 to 60,000 lb of steam per hr.



**VU-50 Boiler** installed in a Southern mill. This boiler is fired with pulverized coal using C-E Raymond Bowl Mills. The capacity is 150,000 lb of steam per hr. Steam pressure is 865 psi – steam temperature is 825 F.

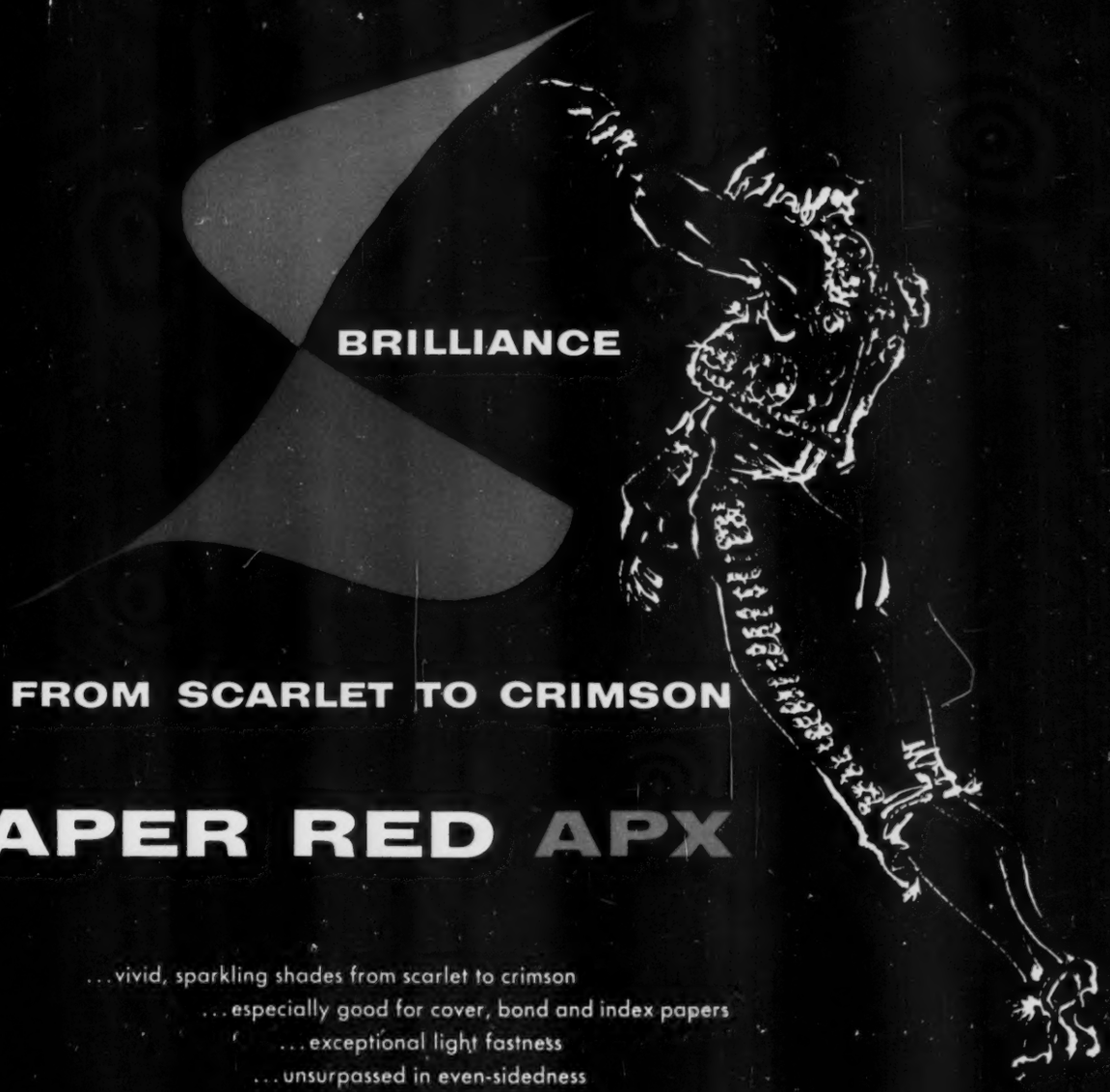
C-E

**COMBUSTION ENGINEERING, INC.**

B-612B

COMBUSTION ENGINEERING BUILDING • 200 MADISON AVENUE, NEW YORK 16, N. Y.

ALL TYPES OF STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT



BRILLIANCE

FROM SCARLET TO CRIMSON

# PAPER RED APX

...vivid, sparkling shades from scarlet to crimson
...especially good for cover, bond and index papers
...exceptional light fastness
...unsurpassed in even-sidedness
...even coloring
...not sensitive to heat or variations in processing time

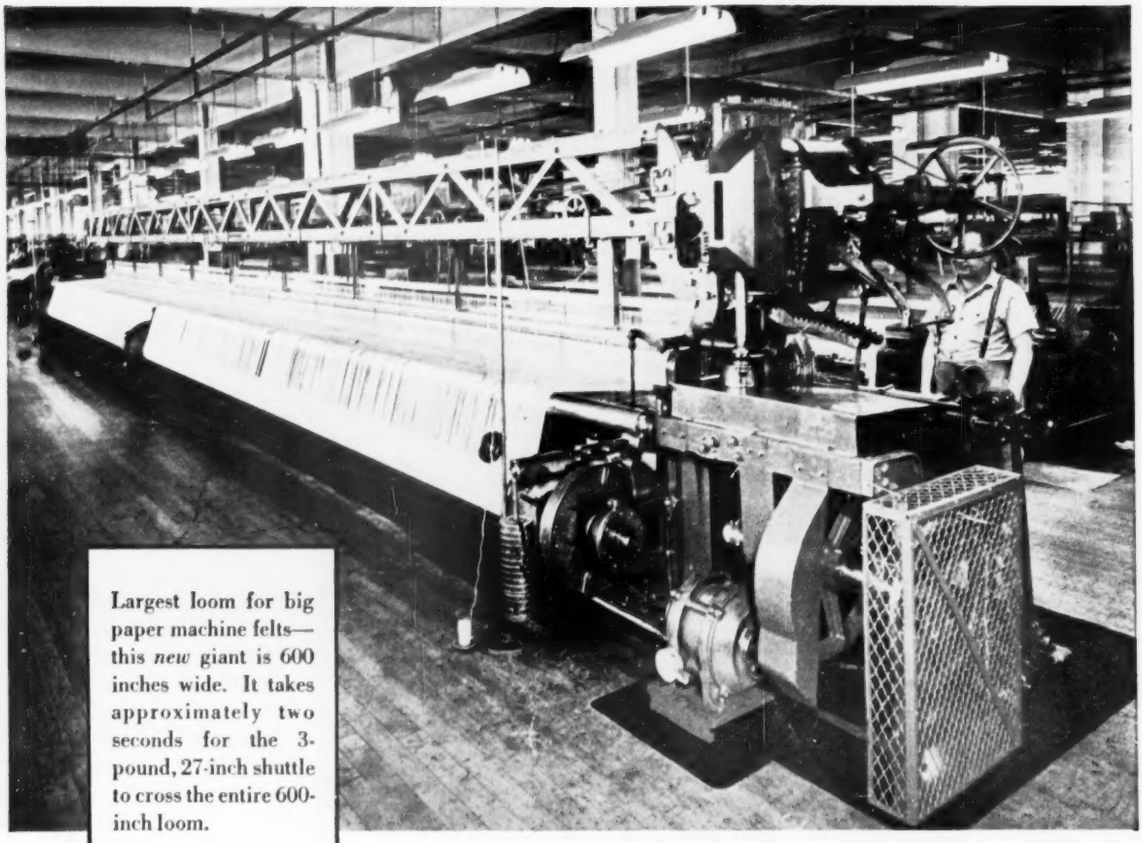
**when an acid red is desired, you can count on PAPER RED APX**

gdc

**GENERAL DYESTUFF CORPORATION**

435 HUDSON STREET · NEW YORK 14, NEW YORK

NEW YORK • BOSTON • CHARLOTTE • CHICAGO • PHILADELPHIA • PORTLAND, ORE. • PROVIDENCE • SAN FRANCISCO



Largest loom for big paper machine felts—this *new* giant is 600 inches wide. It takes approximately two seconds for the 3-pound, 27-inch shuttle to cross the entire 600-inch loom.

# paper is our business, too!

To keep the flow of some 3000 sizes and styles of felts constantly moving through production, we have 83 looms in Albany ranging in size from 40 inches up to 600 inches. Each felt must be woven in a loom suitable for its particular width before felting to size, and therefore over half our looms are more than 200" wide. Looms exceeding 92 inches are rare in an ordinary woolen mill, but a necessity for uniform weaving of large felts.

In every operation: sorting the raw wool, scouring, blending, carding, yarn spinning, weaving and finishing . . . our facilities and processes are the most modern known to the textile industry. **Yet paper making is really our business, for every Albany felt is designed and manufactured to meet the special requirements of an individual machine for finish, drainage and trouble-free performance. The result: MORE TONS PER DAY.**

*PRODUCTION SLIDE RULE. Ideal for the busy mill superintendent. Computes machine production for paper or board fast and accurately. Write for your FREE slide rule today.*

## ALBANY FELT COMPANY

*"World's Largest Manufacturer of Paper Machine Felts"*

MAIN OFFICE AND PLANT, ALBANY 1, NEW YORK

Other plants: Hoosick Falls, N. Y., North Monmouth, Maine, Cowansville, Quebec

# When you buy SOLVAY® CHLORINE you get these 3 EXCLUSIVE SOLVAY SERVICES

## 1 A Specialized Technical Service for Each Industry

Only SOLVAY offers you a Technical Service with separate sections for textile, paper, water, sewage and other industries that use chlorine. SOLVAY'S staff of engineers, chemists and technicians are available AT NO COST OR OBLIGATION!


## 2 Exclusive Chlorine Safety Service

Solvay has been a leader in the development of safety programs for chlorine users. SOLVAY customers can obtain SOLVAY'S Safety Charts which instruct employees on safety practices . . . procedures to follow in an emergency . . . and the location of the nearest SOLVAY repair kits. SOLVAY also makes available its *exclusive* emergency repair kits which have been specially-designed by SOLVAY engineers to quickly and safely stop chlorine leaks from any type of SOLVAY Chlorine container. These kits may be purchased by SOLVAY Chlorine users . . . or they may be borrowed *without charge* at various points throughout the country in an emergency. Booklets describing these kits with detailed instruction on their use are supplied *at no cost* to *all* users of SOLVAY Chlorine.

## 3 Technical Bulletin Service

SOLVAY's *exclusive* series of Chlorine technical bulletins are recognized as one of the most highly reliable sources of information on chlorine and its uses. These bulletins are: Bulletin #7, "Liquid Chlorine," Bulletin #8, "Alkalies and Chlorine in Treatment of Municipal and Industrial Water," Bulletin #11, "Water Analysis," Bulletin #12, "The Analysis of Liquid Chlorine and Bleach," Bulletin #14, "Chlorine Bleach Solutions."

**When service is a prime factor—make SOLVAY your prime source!**

SOLVAY

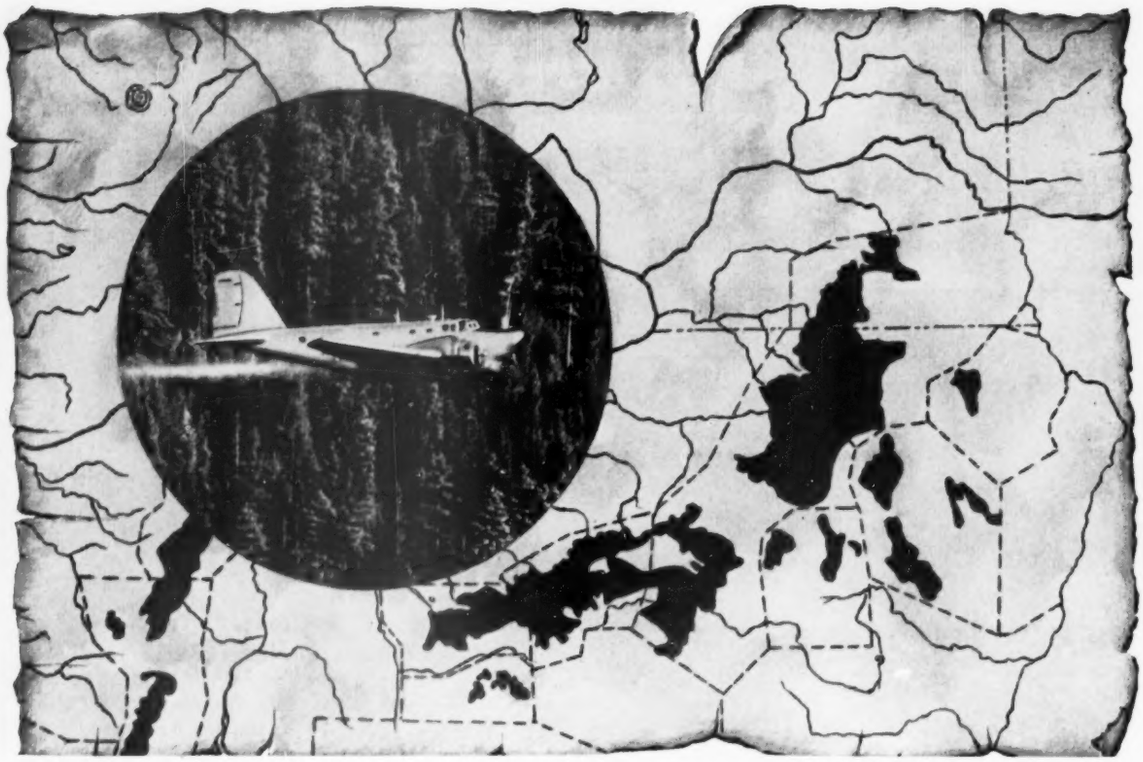
**Soda Ash · Caustic Soda · Potassium Carbonate · Calcium Chloride · Chlorine · Caustic Potash · Sodium Nitrite Cleaning Compounds · Ammonium Bicarbonate · Sodium Bicarbonate · Snowflake® Crystals · Monochlorobenzene Para-dichlorobenzene · Ortho-dichlorobenzene Ammonium Chloride**

**SOLVAY PROCESS DIVISION,** Allied Chemical & Dye Corporation
**61 Broadway, New York 6, N. Y.**

Gentlemen:
Please send me—AT NO COST OR OBLIGATION—copies of these SOLVAY Technical Bulletins: ☐ #7 ☐ #8 ☐ #11 ☐ #12 ☐ #14

Please have the nearest SOLVAY Branch Office contact me regarding:
☐ SOLVAY'S SPECIALIZED TECHNICAL SERVICE
☐ SOLVAY'S EXCLUSIVE EMERGENCY SAFETY SERVICE

Name_____
Company_____
Address_____
City_____ Zone_____ State_____ BG-11



Shaded portions of map show treated areas in Washington and Oregon

*Pennsalt reports on the*
*Spruce Budworm Control Program:*

# ACTION has helped save our Northwestern timber crop

During the past several years, timber owners have been able to nullify a serious spruce budworm infestation on many of their tree farms in the Northwest. But it took a strong plan of *action* to do the job. Aerial spraying . . . plus a low-cost, Pennsalt-produced insecticide which proved 99% effective . . . held the per-acre cost to slightly more than a dollar. The value of the saved timber comes to at least $785 per acre!

This control program in the states of Oregon and Washington has conserved more than 40 billion board feet of otherwise doomed timber. But, even more significant, this program has proved that an extensive outbreak of at least one type of insect enemy of our timber crops —in at least one section of the country—can be controlled effectively and economically.

No doubt, the same methods will prove equally effective in ridding all our forests of many other types of insects and disease . . . *which annually destroy 30% more timber than forest fires!* Pennsalt technicians will gladly assist on these problems from coast to coast.

***In the West:***

**Pennsylvania Salt Manufacturing Company of Washington,** Tacoma, Washington and Portland, Ore.

***In the East:***

**Pennsylvania Salt Manufacturing Company,** Philadelphia 7, Penna.

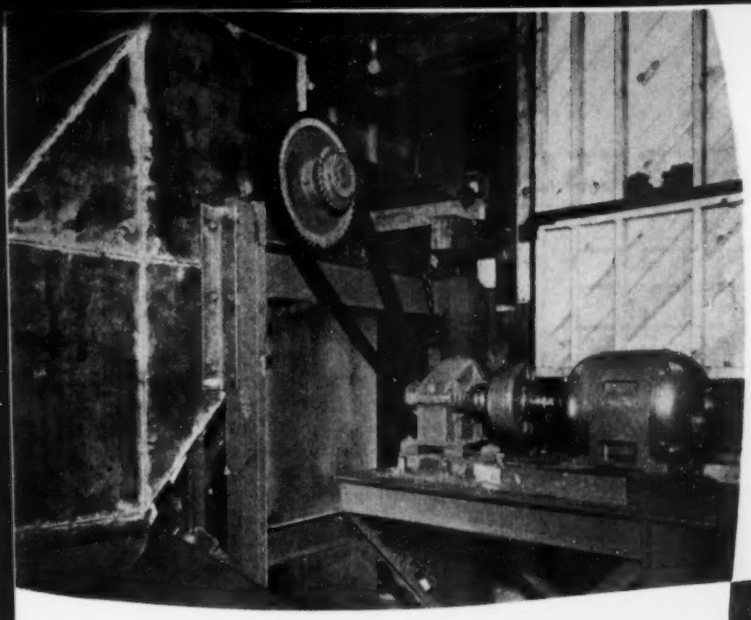
*Timber is a crop . . . let's protect it*

**PRODUCERS OF**

LIQUID CHLORINE • CAUSTIC SODA • BLEACHING POWDER • POTASSIUM CHLORATE SODIUM CHLORATE • ANHYDROUS AMMONIA • PERCHLORON® • SODIUM ARSENITE • SODIUM HYPOCHLORITE • MURIATIC ACID • SULPHURIC ACID • ANHYDROUS HYDROFLUORIC ACID • ACID-PROOF CEMENT • DDT • PENCO FOREST SPRAY.

PROGRESSIVE CHEMISTRY FOR OVER A CENTURY

**Pennsalt Chemicals**



# EXTENSIVE ACCEPTANCE!

## WEYERHAEUSER'S NEW MILE-LONG CHIP CONVEYOR IS POWERED BY

## WESTERN GEAR DRIVES

13 Western Gear Works Speed Reducer installations were selected for Weyerhaeuser's new mile-long conveyor at their new sulphate pulp mill in Everett, Washington.

These units, and many others, are a tribute to the extensive product acceptance given to Western Gear Works over a period of many years by the Weyerhaeuser Timber Company.

A complete line of speed reducers in a full range of ratios and horsepower is available – plus the added value of Western Gear Works engineering assistance. For information regarding your mechanical power transmission problems, please write, wire or phone our nearest plant or office.

**WESTERN GEAR WORKS**

Our 65th year

Manufacturers of **PACIFIC-WESTERN** Gear Products

**Pacific Gear & Tool Works**

Plants: Seattle
San Francisco
Belmont
(S. F. Peninsula)
Lynwood
(Los Angeles County)
Pasadena
Houston

***Write, wire or phone your nearest Pacific-Western office***

***Plants*** — 417 Ninth Ave. S., Seattle 4, Washington
2600 E. Imperial Highway, Lynwood (Los Angeles County), California
1035 Folsom St., San Francisco 3, California
Belmont (San Francisco Peninsula), California
132-134 W. Colorado St., Pasadena 1, California
117 N. Palmer St., Houston 3, Texas

***Representatives*** — N. 2605 Division St., Spokane, Washington
930 S. E. Oak St., Portland 14, Oregon
Room 212, Ross Bldg., Denver 2, Colorado
500 South Ervay Street, Dallas, Texas
Engineering & Machinery Ltd., 1366 W. Broadway, Vancouver, B. C.

# INDUSTRY LEADERS IMPRESSED BY WEST

# WORKING TREE FARMS

IT WAS A RARE BRIGHT fall day that brought some two score pulp and paper executives and woodlands chiefs from all the corners and regions of the U.S.A. together on a lookout ridge high up in the Cascade Mountain range of western Washington.

Many of these top level executives were in rough clothes. They stood on this ridge in an evergreen wilderness rarely seen by anyone else except foresters and loggers, and plenty of bear, cougar and other wild life.

These executives, including some of the top officials of the American Paper & Pulp Association and the U.S. Pulp Producers Association, were in another world—far, far away from their skyscraper offices or manufacturing centers in North, South, East and West. In this silent, outdoor cathedral of greenery and ice cream cone mountain tops stretching out for many miles around them, it seemed they had left the busy Pacific Highway and towns along it just as far away as their offices. But that highway and Longview, Wash., varied utilization center for these forests, were only 15 miles back down the slopes.

These guests of the Far West's timber industries had arrived at this lookout over private mountain logging roads, with a radio car moving ahead of their two buses, to halt the giant logging trucks coming down the passes (they used buses because it was unsafe for private cars).

On this ridge, the guests enjoyed a lunch laid out under open skies. And their eyes also feasted—on mile after mile of vast tree farm plots ranging in age from 15 year old young firs to hillsides of 250 to 350 year old giants stretching out 25 to 35 miles in the distance. They saw the strip-cut patches, and clear block cutting areas, naturally re-seeded by surrounding forests—the strip cutting being favored now because there is less blowdown, easier slash burning, better road access in a long narrow strip. They heard green-jacketed foresters on loud speakers tell how from one to three and four cords of regrowth per acre of wood is being achieved. Of how no firs less than 170 years old are being cut.

On a three-day tour of the Tree Farms of major companies in Western Washington and Oregon—sponsored by the Forest Policy Committee of American Paper & Pulp Association (and followed by a flying trip to the new Ketchikan Pulp Co.'s operations and timberlands in Southeast Alaska), this is what these industry men learned:

Most important of all, they learned that *Tree Farming in the Far West is no roadside show—it is not just propaganda—but it is a day-by-day successfully productive job being done on hundreds of thousands of acres, most of it far away from public roads and public view.* They learned enough wood is growing to meet probable future demands and that many western mills are established firmly on a perpetual supply basis.

They learned that the Crown Zellerbach Tree Farms, which they toured in northeast Oregon, logged 75 percent for pulp and 25 percent for lumber and plywood, are *growing on an average 750 bd. ft. per acre per year for 60 year cycles.* (That's 1 and ½ cords per acre per year.)

They learned that Weyerhaeuser Timber Co., logging in mostly Douglas fir in its great St. Helens Farm, and mostly for lumber and plywood, was *growing on an average 600 bd. ft. per acre per year for 80-year cycles.* (That's 1 1/5 cords per acre per year). They saw some 30 to 80 year old Weyerhaeuser lands growing 1,100 to 1,200 bd. ft. (over 2 cords) per acre per year.

They learned that on the South Olympic Tree Farm, where Simpson Logging Co. has 100,000 acres, Weyerhaeuser, 60,000, and many small private owners are also in the management pool, *the growth averages 1.2 to 1.4 cords per year per acre.*

They visited Simpson "research" timber plots, too, and they learned that in some rain-nourished areas in all these company, and also small private, lands, the new growth often will total as much as three to four cords per acre.

One U.S. Forest service spokesman at Shelton, Wash., who had long experience previously in Arkansas and the fast tree-growing South, said: "The growth in Western Washington is twice that of the South in a 100-year period, and where the South will get one cord per acre per year, the Olympic Peninsula area gets two cords per acre per year with similar ease, on similarly stocked lands."

Naturally, these comparisons sparked some lively but friendly exchanges as several leaders of the Southern industry were in the audience.

The good-natured debate seemed to settle down on agreement that the much smaller growing area of the West Coast


**PERSONALITIES SNAPPED BY PULP & PAPER during 3-day Western Woods tour:**
**(Top left) MACE HARRIS (left), Vice Pres. and Mgr. of Mfg., The Northwest Paper Co., and HOWARD MORGAN, Vice Pres. and Mgr. Pulp Division, Weyerhaeuser Timber Co., who chairmanned Woods Tour Committee. (Center top) JAMES L. MADDEN, Pres., Hollingsworth & Whitney Co., and Chairman of APPA's Forestry Committee stands beside a 300 yr. old Douglas fir just after it was felled by a 2-man Weyerhaeuser team using a Disston power saw. This tree contains 9,000 bd. ft. (equal to 18 cords) and is about 5 ft. dia. waist high. (Top right) SYDNEY FERGUSON, Pres. of APPA and Chairman of The Mead Corp., studies a Simpson Logging Co. aerial photo of timberlands through magnifying glass.**
**(Bottom left) KIRK ANDREWS (left), Pres., Blandin Paper Co., and LYMAN BEEMAN, Pres., Finch, Pruyn & Co., stand beside Simpson Logging Co. planting and seeding accomplishment report, plot tally sheet and recap sheet, which are a few of reports and maps made in intensive management program. (Bottom right) E. W. TINKER (left), Exec. Secy. of APPA, and FRANK KELLY, Woodlands Mgr. for The Northwest Paper Co.**

will grow more fiber per acre than the larger areas of the South, because the trees grow so much higher in the west—in other words, after 30 or 40 years, the West forges ahead with continued heighth growth for an additional 30 years or more, depending on the cutting cycle.

But figures and statistics, and friendly rivalry of Southern and Western leaders were unimportant compared with the rare experience these leaders had of actually seeing new green forests on every side of them on lands that had been logged for 30 years or more. They saw these new forests in the Simpson, Crown Zellerbach and Weyerhaeuser areas where logging operations and tree-growing were both being carried on under long term plans—plans that go far beyond the lifetimes of the company executives, the foresters and the loggers involved.

It was of interest that in Crown Zellerbach lands in Oregon, mostly growing spruce and hemlock for pulp, the pre-logging is done for sawtimber and plywood.

On the other hand, in the Weyerhaeuser St. Helens Tree Farm, pre-logging is done for pulp. Now, on every logging show for Weyerhaeuser, all trees under 20 in. diameter are first taken out for pulp. This company's new kraft mills in three cities have made possible the use of tree tops, often broken off when a giant tree falls, also the pre-logged wood and after-logging salvaged wood—none of which could be previously handled in their mills.

(Top) WESTERN HOSTS ON APPA TOUR included (l to r): ED STAMM, Vice Pres. and Logging Mgr., Crown Zellerbach Corp., COL. WM. GREELY, former U.S. Chief Forester and Chairman of American Forest Products Industries Inc., and CLYDE CORMAN, General Logging Mgr., Longview Branch, Weyerhaeuser. (Center, l to r) ED McGILL, Gen. Supt., Shelton, Wash., Div., Rayonier Inc.; HENRY BACON, Vice Pres. and Gen. Mgr., Simpson operations in Shelton area, and ALBERT ERNEST, Vice Pres. Southern Logging Mgr., St. Regis Paper Co. (Bottom) WM. BROMLEY, Exec. Secy.-Treas., American Pulpwood Assn., ROBERT W. LYONS, Vice Pres. i/c Woodlands, Kimberly-Clark Corp., and CLARENCE RICHEN, Chief Forester, Crown Zellerbach Corp.

# ADDRESSES BY INDUSTRY'S SPOKESMEN

## *Weyerhaeuser on Public Relations—Ritchie's Forecast—Ticoulat on Salesmanship—Turcotte on Pulp Prices*

A FULL WEEK's kaleidoscopic program of events included just one day of speech-making in Seattle, talks on forest management at Simpson's Mason Lake resort across Puget Sound, a succession of forestry lessons and demonstrations along a 300-mile itinerary, plus tours of new mills in Everett, Wash., and Alaska.

Not least important in its potentially unifying effect for good was the fact that these leaders lived together a full week—three meals a day together, living in the same hotels, and traveling together in two buses most of the time. Thus were viewpoints of South, East, Midwest and Far West merged as they seldom are—it was a genuine pulp and paper melting pot. During the week, virtually every man sat next to nearly every other one, at meals, in buses, etc., to talk of industry problems or trends.

Climactic event of the Seattle meeting Sept. 15 was Phil Weyerhaeuser Jr.'s bleakly realistic speech on the serious public relations problem that faces forest industries everywhere because of the hold that sentimentalists and public ownership propagandists have upon the public mind. He pointed out, for example, that only 14 percent of the public (according to a recent survey) believe that Tree Farms are privately owned, despite the fact that hundreds of these Farms have been established by industry over the past decade and have been a major factor, along with industry's process improvements and inventions, in assuring ample wood supply for future needs.

The Weyerhaeuser president addressed the largest audience of the week—about 100 top executives and management men from Canada and U.S.—urging them to step up the flow of information on industry achievements, to use "more tools of public information." (His complete address is published elsewhere in this issue.)

Under auspices of the U. S. Pulp Producers Association Inc., highlights of other speeches that day:

Gabriel Ticoulat, vice president of Crown Zellerbach: "Barring a war, I doubt if we ever again see a seller's market such as we have gone through. Increasing population means a bigger labor force as well as more customers. We must be more daring. . . ."

LAWSON TURCOTTE, Pres. of Puget Pulp and Ketchikan Pulp, warned obligations to labor, taxes, other mounting costs, will keep prices up.

Lawson Turcotte, president of Puget Sound Pulp & Timber Co. and Ketchikan Pulp Co.: "No serious overproduction is threatened. But we cannot expect lower prices, for living costs will keep employe rates high. Costs of chemicals are rising."

W. W. Corlett, association attorney and legislative adviser: "This administration has a very sincere desire to restore constitutional government. The day has passed when Congress is just an appendage of the executive end, and we are better off for it."

J. L. Ritchie, executive director of U.S Pulp Producers: "Consumption of purchased fiber abroad should rise sharply in the 4th quarter. The rest of the world is looking more and more to North America for woodpulp. The long range outlook should be good."

### *Pulp Gives 8½% of Population Jobs*

These comments were made at an open meeting which followed the Pulp Producers closed forenoon meeting, and reflected the tenor of the closed session, leaders said.

Mr. Ritchie, acting as chairman, pointed out that 10 percent of the entire U.S. economy is based on wood fibers and its conversion and use in many products.

He said 8½ percent of all employment in the U.S. is based on wood fiber.

As C-Z's top sales executive, Mr. Ticoulat, a new member of the Pulp Producers' directorate, said "in today's market, selling is going to be radically different. Today's margin of profit is reduced to where sales must be kept at a high level."

He urged companies to review their own sales "influences." Even a telephone receptionist can "cause a buyer to make a decision" and he suggested executives should "call yourselves on the phone and see how hard you are to reach."

He said "your purchasing agents should give salesmen the same consideration you expect other p.a.'s to give yours." And he asked: "Does your truck driver hog the road?"

Speaking from experience as a top executive of the National Production Authority and his continuing contacts in Washington, he predicted the Department of Commerce will be "an advocate for the industries it represents" just as the Labor Department is for labor. He predicted high caliber industry men will serve in Washington.

He favored sales executives on the "management team" and the use of "sales managers' schools" in companies. He stressed that industry has two jobs—(1) supplying needs and (2) supplying jobs, and "if private industry fails, the govern-

MORE SCENES FROM WOODS TOUR. (Top) Watching a giant tree being topped by high climber (l to r): CHARLES DYNES, Hollingsworth & Whitney Co., G. B. AMIDON, M & O Paper Co., and CARL SAHLIN, Logging Mgr. for Puget Sound Pulp & Timber Co., who led the party on Alaska air tour. (Center) At Weyerhaeuser's new Everett kraft pulp mill (l to r): AMOR HOLLINGSWORTH, JR., Tileston & Hollingsworth Co. and Penobscot Chemical Fibre Co.; P. L. HOVEY, Oxford Paper Co.; GERALD ALCORN, Weyerhaeuser's Construction Engineer; BILL CHISHOLM, Oxford Paper Co., and CHARLES D. DICKEY, JR., Scott Paper Co. (Bottom) BEN CANCELL, V.P. of Rhinelander Paper; HARRY KENDALL, Secy.-Treas., The Northwest Paper Co.; RUSSELL J. LeROUX, Mgr. Sulfate and Sulfite Mills, Weyerhaeuser, Everett, Wash.; L. K. SMITH, Vice Pres., Miller Freeman Publications (inc. PULP & PAPER), and TED FOSTER, Secy.-Treas., Foster Paper Co.

ment will try it, and it won't do it well." This time, he said, it would not be jobs at leaf raking, but in government steel and lumber and paper mills.

He told how Crown Zellerbach has started an executive development program to appraise abilities of key men, and how it has confirmed the value of "the group method of appraisal" to improve staff. Management recruits have come from universities and from its own staff, some of whom have been sent to the A.M.A. management school or to courses at Stanford, Rutgers, and Harvard. Next, his company plans a program to "re-train" its oldtimers.

### *The Cost-Profit Outlook*

Mr. Turcotte's talk was on the industry's "cost-profit outlook." He quoted Mr. Ritchie as saying the outlook for woodpulp is "very good up to 1960" with ample supply.

Mr. Turcotte pointed out that this industry has the confidence today of banks and investors, which it did not always have in the past. But he warned that the large tax bite and labor costs were still high, and there was little chance to reduce the latter, therefore "we must not be too hopeful that cuts in cost of production can reduce prices."

He freely conceded that his viewpoint was not as optimistic as that of President Robert Fowler of the Canadian association who recently said the industry would have to cut its costs and indicated it would be able to do so appreciably.

The Corlett address was a review of federal legislation. He pointed out the recent Republican Congress made the largest cuts ever made in appropriations—down nearly 21 billions from Truman's and that the budget was over 9 billion below Truman's last. But he warned that a 10 percent reduction slated Dec. 31 on income taxes might be cancelled.

### *Outlook for Woodpulp*

This was Mr. Ritchie's five-point summary of the short term outlook for pulp.

1. Consumption should gain at the expense of waste paper, straw, etc.

2. The competitive position of purchased fibers vis-a-vis own used pulp has improved, particularly abroad.

3. Growth of paper and paperboard production in the Old World for some time must be based primarily upon purchased fibers.

4. Cyclical influences indicate a high level of consumption of market woodpulp.

5. Improvement in production and trade around the world is boosting overall fiber consumption.

His analysis was that the pulp industry "will be enjoying a larger piece of a larger pie."

He stressed that fiber economies portend a rising market. If the current rate of market pulp use continues, 1953's record should exceed any postwar year, he said. Britain's woodpulp purchases are steadily increasing and in Europe generally, he said, woodpulp would be preferred where available and competitive, as inventories of waste paper, esparto and other fibers are worked off.

World capacity for rayon and acetate has increased 1,000,000 tons since 1949 and is on the upgrade.

"A much higher level of industrial production in U.S., Europe and Japan should reflect well for this industry," Mr. Ritchie said. "Conditions are ripe for relaxation of restrictions and more activity. The volume of Scandinavian market pulp will not rise appreciably and the world will look more to North America."

Sydney Ferguson, chairman of The Mead Corp. and president of APPA, chairmanned the dinner meeting addressed by Mr. Weyerhaeuser. He introduced Harold Foley, president of Powell River Co., as a "premium product" of Canada and the latter responded with quips in like vein on the monetary exchange issue, but pointedly reminded his audience of Canada's independence of both U.S. and Britain. Mr. Ticoulat was introduced as "Mr. Washington," and five members of APPA's top board and other top company executives were introduced by Mr. Ferguson.

Significant in Mr. Weyerhaeuser's address was his prediction that the Paley Report, forecasting shortages of wood and painting a gloomy picture of the outlook for 1975, would be offset next spring by an analysis of future log requirements being made by the Stanford Research Institute. Many leaders of the pulp and paper industry are concerned over the Paley Report because they anticipate it may be used as basis for restrictive legislation and extension of federal controls over the small woodlot owner as well as larger industries.

# SEE NEW SCOTT, WEYERHAEUSER MILLS

THE INDUSTRY CONFERENCE held in the Far West in September opened with a day-long tour by buses to Everett, Wash., where guests were treated to conducted tours of the new Weyerhaeuser and Scott mills and Everett Pulp & Paper Co.

Welcoming them for Weyerhaeuser were Howard Morgan, vice president and Pulp Division manager, Russell J. LeRoux, manager of sulfite and sulfate mills in Everett; Gerald F. Alcorn, construction engineer who had charge of engineering and construction of the new 250 ton bleached kraft pulp mill and others of the Everett staff.

For Scott Paper Co., Umberto Dickey, senior western director and former Soundview president; Paul Baldwin, recently elected vice president in charge in the West; Charles D. Dickey Jr. (the Dickeys are not related), general purchasing agent for western operations, and others of the Everett staff were on hand.

Anson Moody, vice president and general manager, and Don F. McCall, assistant general manager, greeted them at Everett Pulp & Paper.

Foresight of the former Soundview Pulp management in acquiring waterfront area adjoining the bleached sulfite pulp mill—

EXECUTIVES TOUR WEST. (Left) VERTREES YOUNG (left), Exec. Vice Pres., Gaylord Container Corp., and DON McCALL, Asst. Gen. Mgr., Everett Pulp & Paper Co., Div., of Simpson Logging Co. (Center) CLARENCE LARSON, Vice Pres. (Mfg.), Minnesota & Ontario Paper Co., and WINSTON SCOTT, Asst. Mgr., Shelton Div., Rayonier Inc. (at Shelton mill). (Right) SYDNEY FERGUSON, APPA President, and NORMAN STONE, Vice Pres. and Gen. Mgr., Mosinee Paper Mills, looking over many miles of tree farms to snowcapped Mt. St. Helens.

biggest in the world—was evident to the visitors. In this area it would eventually be possible to "shoe-horn" in six tissue machines—which may be a reality some day.

Visitors saw the new paper mill of fireproof brick, concrete and steel near completion and with space for a second machine alongside the new 193 in. trim, 206 in. wide Beloit-built machine which is larger than any in the world now making tissue. Built to Scott's own engineering designs, it has their own odd-appearing wire nozzle direct inlet instead of a conventional headbox or inlet. Pulp will be piped in slush form from the adjoining pulp mill. Visitors noted Scott's own specially designed steel 12 ft. Yankee dryer of 80 lbs. pressure, followed by a big 2-stack calender on the machine and another 2-stack calender with the reel. The machine is 380 ft. long.

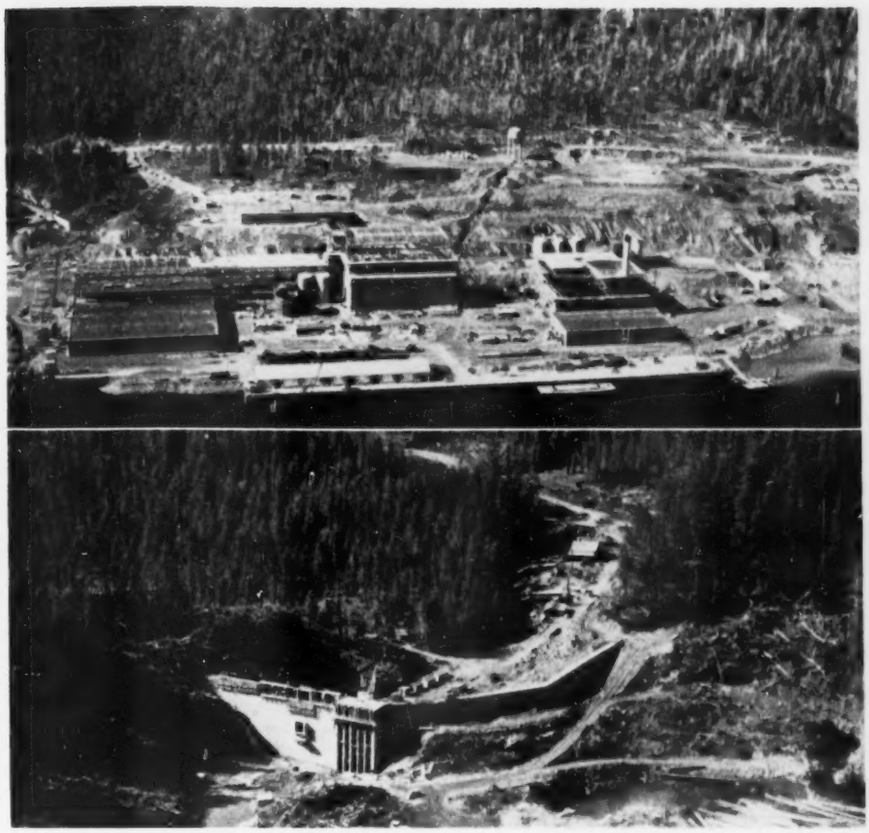
The amount of stainless steel used throughout this mill was impressive. The visitors saw Shartle Selectifiers, one Curlator and three Morden Stock-Makers for use ahead of the machine. General Electric drive and motors and Western Gear reducers were generally noted.

It is expected tissue will be rolling off the Everett machine before the end of the year, and the second machine will be in production in the spring. Scott has expanded and reorganized its western sales to prepare for these events. It is understood the machines will be capable of new world top speed records for any kind of paper.

### *Visit Weyerhaeuser Mill*

Over on a filled-in swamp on the Snohomish River, across town, they saw the new Weyerhaeuser mill which started up Aug. 26 with its impressive 4,500 ft. long aluminum housed chip conveyor from Weyerhaeuser's big Sawmill B and a pick-up conveyor from nearby Sawmill C. Two other Weyerhaeuser sawmills in the area also supply waste fir.

They saw here a 151 in. Rice Barton Fourdrinier and Minton vacuum dryer (drying 250 tons a day) with an almost automatic complete baling, wrapping, tying and stacking finishing system for the market bleached kraft pulp. The compact and efficiently laid out "Pulping Group" section where the operating floor for six digesters and controls for paralleling brown stock washers and 6-stage bleach plant are within a few steps of each other was a highlight. Also the similarly compact common control floor for evaporators, Babcock & Wilcox recovery and power plants and turbine room housing the big Babcock & Wilcox boilers. Impressive also was the big unique Northwest Filter water treatment plant for water piped six miles from upriver above salt water. Except for starting up and servicing, this is an automatic 30 million gallons coagulating, settling and filtering plant. All wood is hydraulically barked and chipped at the sawmills.



**HERE IS NEW PICTURE** (top) of Ketchikan Pulp Co.'s 300 ton high alpha sulfite pulp mill at Ward Cove, Alaska, as it was viewed by American Paper & Pulp Association delegates who flew there in mid-September following woods tour in Far West states. Logging Mgr. Carl Sahlin of Ketchikan Pulp Co. and also of Puget Sound Pulp & Timber Co. was host to party of 14, and explained woods set-up under Forest Service contract. Note how far advanced is construction here, with most buildings already enclosed. Start-up is set for spring. Magnesia base recovery plant is at right.
Below—Recently completed Ketchikan Pulp Co. dam site for impounding water supply for new mill. This is only for process water. It will have a 3-mile pipeline to the mill. With the magnesia base burning and recovery system—only the second commercial scale plant of this kind ever built—the pulp mill will have its own power plant.

### *Other Mill Visits*

At Everett Pulp & Paper, a long-term improvement program for this modified soda and de-ink pulp and paper mill included modernization of three Pusey & Jones machines and the bleach plant, addition of two new A. O. Smith digesters, etc.

Two other Washington state mills visited were Rayonier's sulfite pulp mill at Shelton and the Longview Fibre kraft mill—second biggest in the west—at Longview.

At Shelton they were shown a Billingham "cradle" type hydraulic barker and big 153 in. 6 knife chipper, both built by Sumner Iron Works of Everett. The barker handles 24 ft. logs of maximum 5 ft. diameter. It has two nozzles with knife-like streams directed vertically on the revolving log. Each nozzle mouth is $^{32}/_{100}$ in. wide and $11\frac{3}{8}$ in. long.

At Longview Fibre the utilization of wood chips brought by trucks from sawmills as far away as several hundred miles into Oregon was seen. The extensive wood utilization methods employed here were shown.

A two-day flying trip to Alaska for 14 of the party which ended the western tour gave them a view of the Ketchikan Pulp Co. mill, where they noted most mill buildings virtually completed, so new equipment will be under housing this winter and start-up is set for next spring.

**TREE FARMS VIEWED.** (Left) **CLYDE MARTIN**, Weyerhaeuser's Chief Forester, at Forest Industries Tree Nursery, Nisqually, Wash., explains 54 million trees have been grown here and later planted on 95,000 acres. Next year 9 million will be removed to plant on 15,000 acres of idle land. Listening to his left: **G. B. AMIDON**, Woodlands Mgr., M & O Paper Co.; **JIM RITCHIE**, Exec. Director, U.S. Pulp Producers, who is behind **A. C. SHAW**, Woodlands Mgr. of Champion Paper & Fibre Co. (Center) **KIEV LARSON**, Sales Mgr., Pulp Div., Weyerhaeuser Timber Co. (Right) **NORMAN WORTHINGTON**, U.S. Forest Service, Shelton, Wash., and **OSCAR LEVINE**, Mgr., South Olympic Tree Farm (shared by Weyerhaeuser, Simpson, Milwaukee R.R., and many small owners).

# PUBLIC RELATIONS DILEMMA

## FOREST INDUSTRIES MUST STEP UP FLOW OF INFORMATION

**By J. P. (PHIL) WEYERHAEUSER JR.**
**President, Weyerhaeuser Timber Co.**

WE IN THE FOREST PRODUCTS INDUSTRIES share the public relations problems of industry in general. And we are further burdened by a particularly acute poser in attempting to create positive relations with people. We deal with trees—one of Mother Nature's own products—around which are woven many sentimental threads, both in song and in verse.

You are familiar with most of the refrains:

"They cut down the old pine tree and hauled it away to the mill."

"Woodsman, spare that tree."

"Only God can make a tree."

These and innumerable similar phrases have had an immeasurable emotional effect upon the public's attitude toward the forests. Undoubtedly, emotionalism has conditioned the majority of opinions about our industry.

Visibility, too, has helped to condition these attitudes. Other natural resource industries—coal, oil, iron, and even fish—are underground and underwater for the most part and their "diggings" are not so noticeable as is a recently cut-over forestland area. So we find many persons looking askance at us.

Self-appointed forest saviors—and a number of politicians—have taken advantage of the nation's inherent sentimentality, and they continue to excite emotions regarding the conservation of our forest resources.

A few days ago the wire services carried a "warning" sounded by a so-called private study organization. We are told that our fields, forests and water resources are being drained at a suicidal rate.

J. P. WEYERHAEUSER, JR.,—warns industry of a serious public relations job ahead.

We can expect that the Ford Foundation's Resources for the Future Mid-Century Conference (in Washington, D. C., Dec. 1 to 3) will accomplish a renewed public emphasis on any deficiency in the forest situation.

Many of the "Let's-scare-'em" conservationists have joined the advocates of big centralized government to promote more federal land acquisition. There has been a discernible trend toward more government ownership of forestland. Few persons realize the degree of federal dominance in our Western states. During the last 20 years, federal ownership of *all* land in those (11) states has jumped from 35 to 53 percent.

Our forest industry is sensitive to public opinion; and we should be! Most of us really care what people are thinking. About ten years ago this industry concluded that the public's attitude toward federal ownership was directly proportional to the people's feeling about the way private forestland owners were managing their holdings. There appeared then an angry surge of emotional antagonism toward the industry. The time had arrived for eliminating guesswork and finding out exactly what the American people thought about a highly controversial subject. We made an extensive public opinion survey. The results of that survey indicated a disturbing lack of public understanding of our industry.

### *Ten-Year Effort Falls Short*

So, ten years of continuously increasing effort were expended by the American Forest Products Industries, Inc. disseminating information. We tried to explain to all who would listen our forestry policies, manufacturing practices, and the significance of our contribution to the American economy. At the same time we tried to lift ourselves by our bootstraps and improve industry performance by promotion of Tree Farms, Keep Green, and Trees for Tomorrow. We talked more, and had more to talk about.

How have we made out? Recently we took a second national survey to check our progress and to seek some new data so that we could stay on the informational beam. While we in the industry know the gap between forest growth and forest drain is being and propably has been closed, we wondered if the public knows it. And we wanted to find out if the the public knows the part private forest industries played in creating this favorable situation.

Well, our efforts to tell the story of our industry have fallen far short of what we hoped to accomplish. The second survey reveals that the American people generally remain uninformed and misinformed regarding our forest resources and the economics of our industry.

A large percentage of the people still favor increased government ownership of forestlands. An alarmingly substantial group believes private companies are not sufficiently concerned about the proper management of the nation's forestlands. The majority says forests are *not* being replaced as rapidly as they are being cut. Our own industry-sponsored programs—Keep Green and Tree Farming— are more often attributed to various governmental agencies than to the private industry associations which gave them life and promote them.

### *Some Depressing Figures*

Ten years ago about half the people thought that our timber resources were being depleted at a serious rate. Today 63 percent believe they are.

While 54 percent of the people admit

### Distinguished Industry Audience Hears Warning

*Speaking before a distinguished gathering of forest industry leaders from all parts of the United States and some from Canada, in the New Washington Hotel in Seattle on Sept. 15, Mr. Weyerhaeuser told of the discouraging results achieved so far in educating the public to the great achievements of private forest industries in wise woodland management.*

*Six of the 18 members of the top executive board of the American Paper & Pulp Association were in his audience, including Sydney Ferguson, president of APPA and toastmaster at the dinner. There were in addition, many other presidents and vice presidents of pulp and paper companies and leaders from Canada's industry.*

*Ad-libbing, Mr. Weyerhaeuser began by praising Robert Wolf, former head of Weyerhaeuser's Pulp Division, for "protecting the infant pulp industry against lumber." But his address stressed the need today of a united front in forest industries.*

*He told how, a half-century ago and since, public lands replaced private ownership on a wide scale. The government was "land hungry" and timberlands flowed into government possession, taking them out of production on a managed basis.*

*"Federal land policy stems from President Theodore Roosevelt and Chief Forester Gifford Pinchot in 1901. As late as 1921, Gifford Pinchot was saying we are destroying our forest supplies faster than they grow, but we had less land to grow wood. He said half of the timber was in the hands of 250 owners." (But the biggest owner of all was the U.S., fast locking up forests from productive cutting and regrowth.)*

*Mr. Weyerhaeuser said that Mr. Pinchot "did more harm than good."*

they have heard about Tree Farms, only 14 percent recognize them as privately owned, privately managed. Most assume tree farming is a conservation effort by federal and state governments. We must emphasize that the Tree Farm program is industry-sponsored and that the acreages so dedicated are privately owned.

Our effort to explain the industry has been well directed and fruitful, but we have not realized how well the public ear has been tuned to the talkative conservationists and to those in public office who traditionally consider it their function to keep the public alerted through the "Shock Method." The louder we have talked, the louder has been the talk on the emotional level.

The major finding from the survey stands out: Large segments of the American public have absolutely *no* clear-cut impressions of the lumber, pulp and paper industries. And I am convinced that *people who don't know about the progress being made by the forest industries might as well be listed among the opposition.* Until we can gain their understanding of our programs, their potential good will is lost to us.

### *Some Bright Spots*

The survey results are not entirely bleak. Our industry scores well in some important areas. We are considered progressive in adopting new ideas and better ways of doing things—but apparently not in forestry. We are credited with having developed new and improved products, with using new and better machinery, and with greater wood utilization. As an industry, we are not considered monopolistic.

Now that we know what the neighbors next door are saying, we know what our information programs must stress, and we know that the volume of our effort must multiply again and again to overcome the volume of negative propaganda.

Too many citizens do not realize the vital role played by the forest industry in proper forestland management and whole-crop utilization. And, still worse, many of our fellow citizens look upon the forest industry role as a destructive one. *It is important for us to know that there are little regional differences in opinion—our job is nationwide!*

Certainly, when anyone checks the forest industry record for the past 11 or 12 years, we cannot be charged with inactivity. Tree Farms have been established in 35 states. Today we have more than 28 million forestland acres of crop-producing, tax-paying woodlands in that progressive program.

More than 4,500 (hard-hatted) industrial foresters have been directly employed by the forest industries. What the public does not know is that the *private forest industries have an almost undisputed leadership in the field of wise woodland management.*

### *Challenges to the Industry*

We must do more than provide useful products to the people of America. We have to take the time to tell those people what we are doing, how we are doing it, and why we are doing it. We must reiterate our aim of creating a permanent forest industry capable of producing a continuing supply of new and better products by managing our private industrial forestlands as tree farms. It's like a wife. . . . no matter how constant and loving the husband is, she still needles him into *telling* her how much he loves her! No amount of doing satisfies her—she wants to *hear* it.

Our enlightened self-interest, and the best interests of all the people, compel us not only to manage our lands for the maximum per acre yield, but to encourage every other forestland owner to do likewise. We must help the farmer and owners of small acreages in solving their forestry problems, improving the productivity of their woodlands, and marketing their timber crops.

The tremendous increase in the utilization of our forest crops—both in the woods and in the mills—is one of the outstanding developments of the past decade.

The proponents of additional federal restriction justify it on the score that there is a continuing shortage—not in the overall growth, but in the sawmill-size timber. They, therefore, are worrying about future lumber and plywood requirements. Actually, the growth of industrial forestry has been healthy and progress continues with no indication of a slackening pace.

The gap between total forest growth and removal was inevitable while old-growth forests were occupying so many acres. Cutting, with or without regard to quick regeneration, has increased the growth, as evidenced by each reappraisal of the situation. We can be quite sure that the small gap still existing, according to the 1944 U. S. Forest Service review, will be closed in the next edition.

But what about size? We must admit that the size of the trees in the second cutting will be much less than in the first. We defend ourselves by pointing out that market requirements can be met with the newly developed gluing techniques, wood-fiber products, fiberboards, particle boards, and paper and paperboard products. We can take the wood apart and reassemble it into a multitude of carefully designed products. Today's and tomorrow's wood and wood products are no longer physically restricted because of tree size and shape.

Yet the argument persists, and the Paley Report predicts usage of lumber items from sawlog-size trees, in 1975, 20 percent greater than the current requirement.

### *Stanford Studies Future Wood Needs*

Our company has given Stanford Research Institute a commission to study,

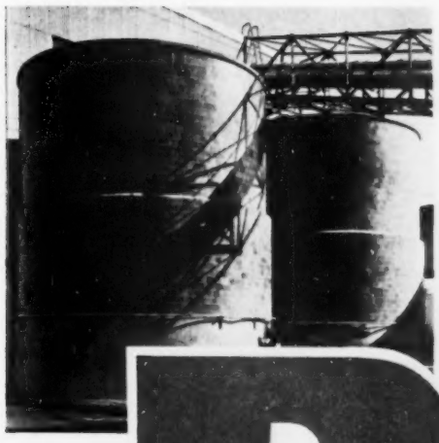
## Ferguson Describes Speaker As 'Composite American'

"A truly composite American"—that's the way Sydney Ferguson, president of APPA and chairman of The Mead Corp., described Mr. Weyerhaeuser in introducing him in Seattle.

He pointed out that Phil Weyerhaeuser Jr. was born in Wisconsin; educated in the Lake States, Appalachians and New England (often regarded as distinct pulp and paper and forest areas); his World War I military services were in the South and West; he lived and worked in Idaho (Potlatch Forests) in 1931-32, and has based since then in Tacoma, Wash., where he worked up to the presidency in 1947.

"The innate modesty of his company"—was another Ferguson *bon mot* in tribute to the company that Mr. Weyerhaeuser heads.

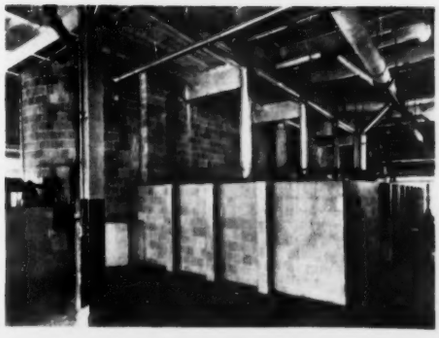
**SPECTACULAR SCENES in St. Helens Tree Farm, Weyerhaeuser Timber Co., drew these intent gazes: Top left—STUART E. KAY, Vice Pres., International Paper Co. (wearing hat at left) and SYDNEY FERGUSON, Chairman of Mead and Pres. of APPA (bareheaded) join two hard-hatted loggers in watching a high tree topping.**
**Top right—Many miles of tree farms and snow-capped Mt. St. Helens in distance was setting for outdoor luncheon.**
**Lower left—Other groups watching tree topping. On log are Mrs. LYMAN BEEMAN, her husband, of Finch Pruyn & Co., and FOLKE BECKER, Pres. of Rhinelander Paper Co.**
**Lower right—Another group watching high climber at work—l to r: NORMAN STONE, Mosinee Mills; CLARENCE RICHEN, C-Z Chief Forester; DOWNING BROWN, Brown Co., and KIRK ANDREWS, Blandin Paper Co.**



## We Design and Build

# BIG

## Tile Structures



Complete service — design, engineering, construction, maintenance — of corrosion-resistant storage and process structures — from the smallest to the largest.

For wet materials, these structures are reinforced concrete faced on both sides with glazed tile; for dry materials, they can be either this same construction or steel-reinforced hollow tile.

***70 Years of Successful Corrosion Resistant Installations throughout the North American Continent***

Write for Bulletin A-153

SINCE 1884
Specialists in Design Installation and Servicing of Linings and Tile Tanks

SEMCO

**STEBBINS**

**Engineering and Manufacturing Company, Watertown, N. Y.**

STEBBINS ENGINEERING CORP. – TEXTILE TOWER, SEATTLE, WASH.

CANADIAN STEBBINS ENGR. & MFG. CO., LTD. – CASTLE BLDG., MONTREAL, CANADA

among other things, trends in building and the competition, both present and future, of various materials, so that it can come up with a studied forecast of future log requirements, including the controversial saw log. This study, of course, will consider not only competition between products from wood and those of other industries, but also the intra-industry competition such as hardboards, plywood, softboards, sheathing lumber, fiberboard, containerboard, and wood boxes, just to name a few. It will also undertake to predict how much of the growth in pulp requirements can be met in the future by a better integration of lumber, plywood, and pulp operations, and by industries better serving the smaller woodlot owner who now has no market for his crop.

Stanford Research Institute findings in this field should be of value to the forest industry in many ways. We ask your help in providing the Institute with the information sought. We propose to make the results of the study known next spring for what they may be worth.

### *Need for Public Education*

But one fact stands out clearly: We must step up the flow of information. Our industry has not yet earned the respect

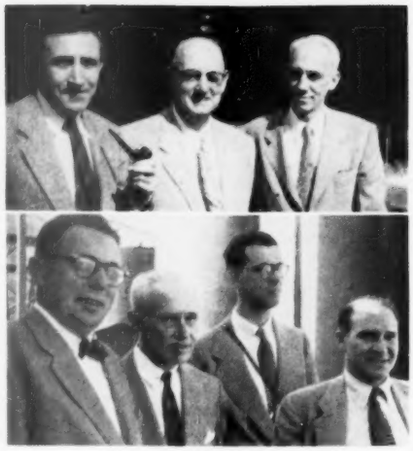
**GEORGE WADLEIGH JR., Assistant to Vice Pres. Paul Baldwin, Scott Paper Co., Everett, Wash., and JOHN McEWEN, Tech. Dir., Weyerhaeuser kraft pulp mill, Everett, who took pride in showing off their company's new mills.**

of the American people. We are suspected of many unpopular things, and we are unable to count on sympathy in the public mind through its unassailable belief that the forests are being renewed. that *industry is doing the lion's share of the job, and that there will be enough to satisfy the probable demand for all products from wood.*

Granted, this is only one phase of good public relations, but it is a phase in which everyone is interested. It is the phase which differentiates our industry from all others. We must not neglect the garden variety of matters by which the public judges all industry, and we must work much harder on this one which is peculiar to our industry and about which almost everyone has a preconceived idea.

I am afraid that we have been inclined to "let George do it." Finance AFPI—that's its job. Have the various associations front for us in this matter which affects each of us only as a small segment of a very large industry.

We've done this, and the tide is still against us. The story of any group is no better than its weakest component. Many of us have a better forestry, sustained-yield, Tree Farm story to tell than in industrywide group.



**ON APPA WOODS TOUR. (Top) HAROLD BIALKOWSKY, Research Dir., Pulp Div., Weyerhaeuser Timber Co.; JACK LAMB, Resident Mgr., St. Regis Paper Co., Tacoma, Wash., and HAROLD CROUCH, technical specialist for Eastman Kodak Co. (Bottom) PAUL BALDWIN, Vice Pres., Scott Paper Co.; WALKER HAMILTON, Exec. Vice Pres., Riegel Paper Corp.; TED FOSTER, Secy.-Treas., Foster Paper Co. Inc., and BENTON R. CANCELL, Vice Pres. i/c Operations, Rhinelander Paper Co. (on tour of Everett mills).**

It seems to me that we should as individual companies or operations use more of the tools of communication to this creditable end. National advertising, no matter its purpose—whether product promotional, stock sales promotional, or institutional—should carry the Tree Farm story. Newspapers, radio, television, moving pictures—we all use them to some extent. The competition for *our* public's attention is tremendous, and I can see no way to multiply our effort sufficiently except with everybody getting into the act.

Our Tree Farm story is close to the hearts of many. It is true. It is dramatic. It is picturesque It is colorful. People like to hear it. Let's tell them about it!

Our future depends certainly not only on how the industry preserves its sources of raw material, but also on how thoroughly it convinces the voters that it is doing just that.

## Ritchie or Hollingsworth? Sometimes It's Hard to Tell

Two of the tallest men on the Industry Executives Conference and Woods Tour in the Pacific Northwest look so much alike they sometimes had their colleagues on the trip at least momentarily confused.

They are James L. Ritchie, executive director of the U.S. Pulp Producers Association Inc., which sponsored the Seattle industry meetings, and Amor Hollingsworth Jr., president of Tileston & Hollingsworth Co., and Penobscot Chemical Fibre Co. The latter served in his father's place on the Pulp Producers executive board.

## Simons Resident Engineer At East Texas Mill Site

Jack Southin, formerly with the Frobisher mining organization in Central Africa and resident engineer for H. G. Acres & Co. in the Windsor, Ont., hydroelectric expansion, has been named resident engineer for Howard A. Simons, consulting engineer, on the East Texas Pulp & Paper Co. project in Evadale, Tex.

*See PULPWOOD SECTION for more details and pictures of Far West woods tour of Industry Executives Conference.*

## Fergusons, Father and Son, Enjoy a Reunion in West

Sydney Ferguson, of New York, as president of American Paper and Pulp Association, was the nominal leader of the Industry Executives Conference and tours in the Far West. But for The Mead Corp. chairman, this honor probably was no more of a thrill to him than the opportunity he had for a reunion with his son.

Bruce Ferguson is learning about the market kraft pulp industry from the ground up by working in a Western Washington mill. Father and son, separated in their respective jobs by the entire width of the continent, got together for an evening and part of the next day.

## Ex-Champions Galore At Industry Conference in West

Several ex-champions were along on the Industry Executives Conference held in the Far West:

James L. Madden, youthful president of Hollingsworth & Whitney Co. and chairman of APPA's forestry committee, shared national fancy skating honors with his sister–the "Dick Button" of his day.

Charles H. Conrad, secretary-treasurer of Rayonier Inc., tied for a national fly-casting championship and won other regional fly-casting titles in recent years.

Dernell Every executive secretary of the Kraft Paper Association, was a national foils champion.

Maj. Charles Cowan, manager of the Washington Forest Fire Protective Association, was a Coast amateur welterweight boxing champ.

**JAMES PETTIGREW, native of S. C., graduate of Duke, and formerly with I.P., has been appointed Plant Engineer of Pomona, Calif., Division of Potlatch Forests, Inc., formerly Fernstrom Mills.**

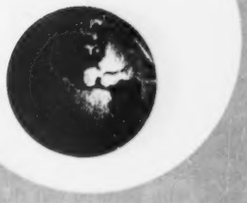
## James Pettigrew Named Plant Engineer at Pomona

James Pettigrew, a native of Florence, S.C., has been named plant engineer of the Pomona, Calif., paper mill division of Potlatch Forests Inc., formerly the Fernstrom Paper Mills.

Mr. Pettigrew moved there from the Potlatch mill in Lewiston, Ida., where he went as electrical engineer before its startup in late 1950. He first served under President William P. Davis of Potlatch when the latter was building mills for Southern Kraft Division of International Paper Co., and was one of the small group of kraft industry men who helped Mr. Davis rush the Potlatch mill to completion.

Mr. Pettigrew graduated from Duke University, was electrical engineer with I.P.'s Southern Division from 1937-47 on construction at Georgetown, S.C., Springhill, La., and back to Georgetown. Next two years he was electrical engineer for I.P.'s Container Division at Whippany, N.J.

# WOOD PULP
# PAPER



*Offices and representatives in 60 cities in the United States, Europe, Latin America, Africa, and Asia*

BULKLEY, DUNTON & CO., INC.
BULKLEY, DUNTON PULP CO., INC.
BULKLEY, DUNTON PAPER CO., S. A.
BULKLEY, DUNTON CELLULOSE EXPORTS, INC.
BULKLEY, DUNTON PAPER (FAR EAST) CO., INC.
BULKLEY, DUNTON PROCESSES, INC.
*In New England*—CARTER, RICE & CO. CORPORATION
*and* STORRS & BEMENT COMPANY

**BULKLEY, DUNTON**
**ORGANIZATION**
**295 MADISON AVENUE, NEW YORK 17, N. Y.**

# PAPER MILL OF THE FUTURE

## LIGHT EQUIPMENT, OUTDOORS – THOSE "THINKING MACHINES"

THE TYPE OF PAPER MILL required for the future will consist of a collection of light continuous and automatic equipment built as far as possible for outdoor operation, arranged very much as at present in a compact grid, and controlled from control stations connected together for quick communication. Research and development to that end should be rewarding.

Such is the belief of P. R. (Dick) Sandwell, British Columbia consulting engineer, head of Sandwell & Co., Ltd., Vancouver, B.C., who delivered the John Stadler lecture this year before the Canadian Pulp and Paper Association annual. Mr. Sandwell has served U.S., Canadian, Swedish, French and Australian pulp and paper companies. He formerly was with Dominion Engineering Co., Ontario Paper and Powell River Co. He has designed the new mill of Tasman Pulp & Paper Co. in New Zealand and is consultant to Celgar Development Ltd., planning an integrated operation at Castlegar, B.C., for Celanese Corp. of America.

Mr. Sandwell pointed out that there had been few comparatively significant developments in the papermaking processes since Louis Robert invented the Fourdrinier machine and Friedrich Keller found a practical way of using groundwood.

"In the second industrial revolution, the new world of plastics, of light metals, of jet propulsion, of nuclear fission, and of thinking mechanisms, the paper industry *seems to be standing still," declared* Mr. Sandwell. "What is the outlook?"

He said the need to build large paper mills, with daily capacities of at least 500 tons, creates a major problem of raw materials procurement. There were few areas sufficient in extent to support such plants, and the plantation of vast forests in the tropics created problems of a magnitude few could contemplate.

"The practical exploitation of fibrous raw materials requires that paper mills be small, a requirement directly opposed to current plant economics," said Mr. Sandwell, who pointed out that the question of energy, in one form or another, was a question of equal importance to that of raw material supply. Cost of power had steadily risen, cheap power in future would be found in one of two forms: (1) Dump power which will be available only in off-peak or off-season periods; (2) Power generated in remote places where other people cannot use it.

The latter, he said, was the only form of interest to a continuous process industry. Where thermal power is concerned, the development of gas wells or lignite deposits has, in early stages, created a situation where a bulk consumer was welcomed by low contract prices. But, as in the case of hydro-electric power, the growth of demand by other consumers, attracted by the very presence of low cost energy, soon raised the value of

P. R. (Dick) SANDWELL, Consulting Engineer of Vancouver, B.C., who discusses future of paper mills in new jet propulsion - nuclear fission world.

that energy to a level far higher than the original "introductory offer."

Referring to the problem of transportation, Mr. Sandwell said that as time goes on the industry will use wood which does not float, from forests or plantations which are not near navigable waters. If the mills must be large, transport of wood by land from several forests would still be difficult and costly. Transport of slush pulp from small groundwood mills to central paper mills is not acceptable under normal circumstances because carriage of one unit of fiber requires carriage of several units of useless water. Transport of highly concentrated pulp through pipelines would be economical only if quantities approaching 1500 tons per day were involved. As in the case of the forests, the transport requirements were all in favor of small scattered mills.

Printing costs were analyzed, and Mr. Sandwell concluded that while the printing industry seemed to require an ever-increasing supply of paper it could not afford to pay enough to encourage new mills of contemporary design nor could it demand enough more paper in any one region to justify mills of the size that are now necessary to be economic.

### $50,000,000 For A Mill

A newsprint mill of contemporary design requires an investment of more than $50,000,000, the current financing method being to borrow some $35,000,000 and risk the balance. In other words, the common stockholders often faced a certain future of supporting the bondholders for at least a decade before they stood much hope of reward. There were better prospects for investment.

"So far in this discussion," said Mr. Sandwell, "a case has been presented for small mills of low cost to be built in remote places, and one may wonder what all this has to do with the 'second industrial revolution.' The only manner in which such mills can be built is by the use of small, light, but extremely fast manufacturing units. But such units must be operated by very few people; otherwise the gains made in the first industrial revolution will be lost. Furthermore, such production units as the papermaking machines must be operated at speeds greatly in excess of current practice, and here is a grave problem.

"In the present state of the art, in the higher range of papermaking speeds, the physical and chemical problems are capable of solution but the human problems are very difficult. Not only is there physical and mental fatigue, and the boredom that has become a part of continuous process work, but there is the problem of perfection and control in the range beyond human ability. The means of following what happens in the papermaking process are rather crude. The measurements of weight, smoothness and moisture content are not truly indicative of paper quality and are received far too late to serve as a means of control during the papermaking process."

### "Thinking" Machines

The situation was such as to give a special value to mechanism now being developed whose purpose was to perceive, remember, compute and control, thus replacing the human brain and opening the way to fully automatic equipment. Such equipment would also make it possible to reduce operating personnel to more economic limits.

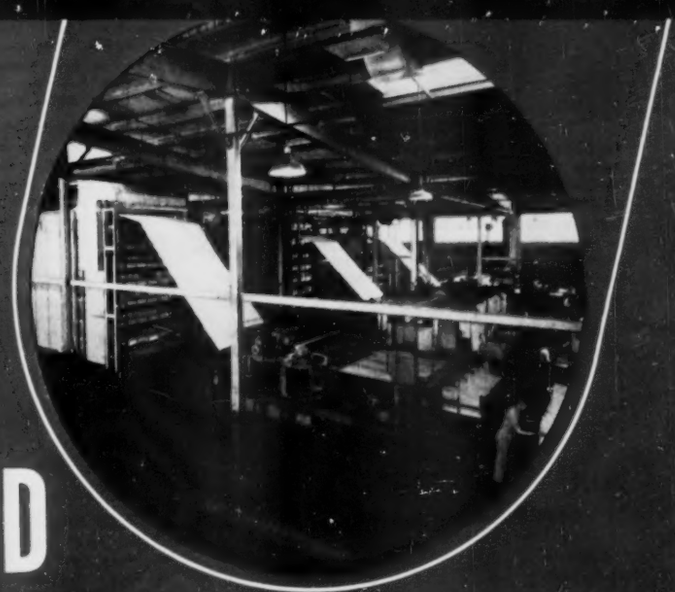
The objectives to be sought in papermaking in the new era of development were production in small mills and to build such mills for a proportionately lower capital investment than at present; also, to manufacture paper at a lower cost than at present.

Capital cost of a conventional newsprint mill is now distributed about as follows: Process equipment, 55 percent; service equipment, 15 percent; structures, 15 percent; construction overhead, 15 percent. In all these matters the most promising possibilities occurred in application of high-speed, lightweight equipment, which should cost less and require less costly structures.

"Reduction of the capital cost of structures is being accomplished by their gradual elimination," said Mr. Sandwell. "Outdoor plant which first made its appearance in warm climates is now being found in colder areas. As long as process equipment is properly insulated and automatically controlled it can to a great extent be exposed to the weather. Continuously operated chemical plant, boilers, turbines, generators and such untended equipment require structures which are limited to foundations, control rooms and access ways.

"The conception of mill design has long since progressed from that involving a group of independent structures to that of a single large structure housing all processes and services. Now the tendency is to retain the basic plan of the single structure but to reduce its scope to the inclosure of tended equipment, of control rooms, service rooms and means of communication."

**PUGET PULP**—the *whitest, cleanest, bleached sulphite pulp* that we can make is produced *particularly for the market.* To assure converting mills of top quality, Puget management is always testing new processes, always alert to improved methods, always ready to install new designs in equipment. *Gear your operations to* ***PUGET PULP.***



# PUGET SOUND

## PULP AND TIMBER COMPANY

BELLINGHAM • WASHINGTON

# NEWS IN PICTURES—ABOUT INDUSTRY MEN COAST TO COAST

### SOUTH MEETINGS SPEAKERS

MRS. MAY ROPER COKER (left), daughter of former Secretary of Commerce Dan Roper and prominent Hartsville, S.C. matron, was to speak on "The Wife's Role in Community Relations" at APPA's first Community Relations Service meeting in the Southeast at Atlanta, Ga., Nov. 4-5. J. Bruce Morford, Mgr. of Community and Industrial Relations at Champion's Canton Div., was Chairman. The Cokers founded and head up the Sonoco Products paper mill operations at Hartsville and elsewhere.

ERLING RIIS (right) Vice Pres. and Gen. Mgr., Southern Kraft Div., International Paper Co., Mobile, Ala., will attend that meeting and also will welcome another APPA Southern meeting on Nov. 17 in Shreveport, La. He and Mr. Morford will report on the Atlanta meeting to mill men who attend the Shreveport event.

### ADVANCE IN THEIR COMPANIES

ED L. CROWLEY (left), who has succeeded the late James Kahn as Manager of the Pulp and Paper Division of Infilco Inc., engineers and manufacturers of water and waste treatment equipment. His headquarters are in Tucson, Ariz. Mr. Crowley was formerly an operations executive with The Northwest Paper Co., Cloquet, Minn., joining Infilco a few years ago as Assistant Manager of the Pulp and Paper Division.

ERNEST NUBER (right), appointed Sales Mgr., The Bristol Co., Waterbury, Conn., under H. E. Beane, Vice Pres. in charge of Sales. Mr. Nuber joined Bristol in 1929 and has been Pacific Coast Mgr., Export Mgr. and recently Mgr. of Application Engineering Dept.

## Paul Peterson Becomes Everett Purchasing Agent

Paul Peterson has been named new purchasing agent and office manager of Everett (Wash.) Pulp & Paper Co., succeeding Ken Knutson, who has retired after many years as p. a. at this mill, according to Anson Moody, vice president and general manager.

### FIBREBOARD PROMOTIONS

RALPH P. McDONALD (left), a 25-year man, appointed General Production Mgr., Fibreboard Products Inc., San Francisco. He started with Fibreboard as an extra checker in 1928, advanced to Personnel Mgr. and Asst. Res. Mgr. at Stockton, Calif., mill and recently was Asst. Res. Mgr. at Antioch, Calif., division.

DR. R. W. K. ULM (right), former Tech. Director at San Joaquin (East Antioch) division, succeeded Mr. McDonald as Asst. Res. Mgr. at Antioch. Pres. T. N. Bland made the announcements.

### ADVANCE ON WEST COAST

PAUL PETERSON (left), newly named Purchasing Agent and Office Mgr. of Everett Pulp & Paper Co., division of Simpson Logging Co. Ken Knutson has retired as P.A., a position he held many years. Mr. Peterson had been assistant to Vice Pres. and Gen. Mgr. Anson Moody.

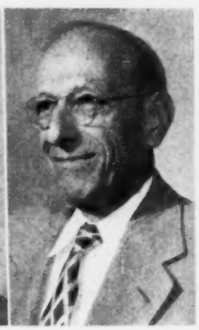
DEAN BANTA (right), newly appointed Assistant to the Pres. and Gen. Mgr. (C. A. Buckland) of Inland Empire Paper Co., Millwood, Wash. He is carrying on some of the duties of the late Vice Pres. J. H. Butler, Jr. Mr. Banta's former position as Purchasing Agent is filled by Joe Stout. Both have been with the mill many years.

### OFF TO ALASKA POST

GUEST OF HONOR S. E. HAZELQUIST receives send-off to new job as General Superintendent of Ketchikan Pulp Co. at function attended by representatives of Portland, Ore., area mills and manufacturers' representatives. (L to r)

LEROY M. SHANAMAN, of Penn Salt, which sponsored the affair; Mr. HAZELQUIST, FRAN FLYNN (back) Crown Z., GEORGE E. MILLER, Columbia River Paper Mills, and ZINA A. WISE, head of Griffith Rubber Mills.

### IN KIMBERLY-CLARK CORP. NEWS



WILLIAM FIEWEGER (left), former Asst. to Mfg. Vice Pres., has been appointed new Mill Manager of Kimberly-Clark Corp.'s subsidiary Munising Paper Co., Munising, Mich. He is a graduate of Notre Dame, started with K-C in its Lakeview (Neenah, Wis.) mill in 1936, worked on production standards, plant budget and mill costs before becoming Asst. to Vice Pres. Fred Seaborne. Munising makes fine papers, household papers and treated papers.

HENRY A. ROTHCHILD (right), now Assistant to Exec. Vice Pres. W. R. Kellett of Kimberly-Clark Corp., was honored recently for 40 years service with K-C at a luncheon attended by many company officials and associates. He was for many years Technical Director and also Chairmanned the Mills Advisory Technical Committee for the Sulfite Pulp Mfrs. Research League.

### PROMOTED AT POWELL RIVER

ALEXANDER VAN ALLEN (left) has been appointed Asst. Gen. Supt. of Paper Production for Powell River Co., Powell River, B.C., and he is succeeded in his former job as Project Engineer by DON BLAKE (right). Mr. Van Allen joined as a technician in 1940, and Blake went to Powell River after serving as a captain in World War II as Assistant to Resident Engineer on development for No. 8 paper machine.

NORMAN WALTON, who recently revised the mill's electrical distribution system, has been transferred from the company's to the industrial engineering.

## Ralph Bowers Dies

J. Ralph Bowers, representative of Crane Engineering Sales, Inc., of Appleton, Wis., to the paper mills of Wisconsin and upper Michigan, was stricken with polio and died Sept. 6, just two weeks later. He was only 35; left a widow and two sons. He was with Crane three years, selling Goulds pumps and Stickle steam specialties, and before that represented Ingersoll-Rand in the same territory.

**SPEEDED DELIVERY** of Beloit paper machinery is the result of plant expansion, new equipment and reorganization for greater efficiency. Improvements include the new main erection floor, 500 feet long. Three heavy-duty cranes help to speed assembly and shipment of Air-cushioned Inlets, Fourdriniers, calenders, winders and other equipment for leading paper mills.—*Beloit Iron Works, Beloit, Wis.*

# BELOIT

WHEN YOU BUY BELOIT...YOU BUY MORE THAN A MACHINE!

**PAPER MACHINERY**

# TEXAS MEET PREVIEW

## WHAT DELEGATES WILL SEE AND HEAR

THOSE ATTENDING the national Tappi-sponsored Alkaline Pulping Conference, at the Rice Hotel in Houston, Tex., Nov. 18-20, have an opportunity to visit many interesting operations, not only as programmed in the immediate area but mills located along approaching routes. These include semi-chemical processes, new or improved bleaching, mill effluent treatment installations, and experimental work in odor treatment.

Formally scheduled is a visit on Nov. 20 to Southland Paper Mills, Inc., Lufkin, Tex. 120 mi. north of Houston, an efficient operation where visitors will see the first southern mill in which the kraft process was incorporated into the newsprint field. Under company policy, no part of the mill is restricted to visitors. The pulp mill is conventional, a straight-out bleached kraft installation characterized by modern equipment and good housekeeping. (Buses and luncheon are provided for this trip.)

The first mill to make newsprint from Southern pine, production began at Lufkin on Jan. 17, 1940. Its pulp mill started in Jan. 1944; its second paper machine in March, 1948; and its millionth ton newsprint production mark achieved in March, 1953. Current daily capacity is 380 tons of newsprint from two Fourdrinier machines plus 75 tons of bleached paperboard from a cylinder machine.

### *Southland's Waste Disposal*

Mill effluent goes to the Angelina River, a stream of importance to local fishermen and of wide variance in flow volume. Dependent upon rainfall, the stream diminishes materially during dry periods, notably in the three summers preceding 1953. The mill has been aggressive in its approach to the problem of stream pollution, its efforts being successful to the point of attracting national attention. Its early work involved ponding. This was followed up with other techniques and cooperative participation in studies of the National Council for Stream Improvement.

Currently the strongest waste originating from the kraft mill decker seal pit is treated by the activated sludge process which originated from the work of the National Council for Stream Improvement in their research laboratories and the Macon (Ga.) pilot plant. This waste, after treatment, is combined with total mill effluent and proceeds to large ponds with a 15 day retention period. In these ponds, the natural bacteriological decomposition occurs to produce a total and overall reduction of approximately 90 percent at the time the waste enters the receiving stream.

### *HOSTS AT HOUSTON CONFERENCE*

**W. R. CRUTE (left), Vice Pres. of Champion Paper & Fibre and Division Manager at Houston, whose mill will be host to Alkaline Conference in late November. KARL R. BENDETSEN (middle), Assistant Division Manager and principal luncheon speaker at the convention. He went to Houston from serving as Under Secretary of the Army in the last administration. I. R. WELLS (right), Mill Manager for Champion at Houston who was Chairman of Committee for Conference Arrangements.**

**W. L. McHALE (left), Vice Pres. and Gen. Mgr. of Southland Mills; R. W. WORTHAM JR., Executive Vice Pres. of Southland; and FRED W. BISHOP (right), Chief Chemist at the Lufkin operations. Mr. Bishop is also Chairman of Tappi Alkaline Committee, sponsors of the meeting.**

The mill is credited with having one of the best waste disposal systems to be found in the industry. Company policy has been to apply all known principles of waste treatment within economic justification in order to meet regulatory demands.

### *Southland's New Instrument*

Another Southland installation of interest is a "Newsprint Scanner," a unique device incorporating a Beta gauge developed by Tracerlab, Inc., Western Div., Berkeley, Calif., at the instance of Southland, and with Minneapolis Honeywell equipment.

The mill removes a 10-in. strip for the entire 220-in. width of newsprint as each reel is completed every 20 min. The strip is fed into the scanner, which is calibrated to paper weight with 1 in. of record chart representing 12 in. of reel width. The resulting record chart reflects the weight variation in a proportion of 1 in. per 4 lbs. basis weight.

The mill cuts the chart along the irregular course of the recording pen, producing a profile of weight variations. This sheet is affixed to a supporting paperboard strip. These are placed in successive order in grooves cut across a wide board until a 3-day accumulation has been obtained. This revealing massed presentation of sheet variations over a period of time has already proved its value to the mill, which is utilizing the instrument in study of headbox and slice performance. The installation is being utilized to record the mass profile of wet felts on Fourdrinier wire, after use.

The gauge console of the scanner is placed in the base of the pedestal in order to elevate the chart drive, paper feed and radioactive shutter to easy visual level. These are operated from a switch panel on the cabinet front. The recorder trace equipment was furnished by Minneapolis-Honeywell.

Southland is solidly affiliated with East Texas forest industries. Ernest L. Kurth, of Angelina County Lumber Co., is president; Arthur Temple, Jr., head of Southern Pine Lumber Co., is a director. R. W. Wortham, Jr. is executive vice president; W. L. McHale, vice president and general manager; and Fred W. Bishop, chairman of the Tappi Alkaline committee, is chief chemist.

### *Champion Mill is a Host*

Nearer Houston, Champion Paper & Fibre Co.'s Pasadena mill is listed for a tour on the same day, Nov. 20. A conventional

**THERE WON'T BE MUCH to see if any delegates planned stops at East Texas Pulp & Paper Co., in Evadale, also near the meeting place. Top left—new Office Bldg. Lower left—Steel work going up for mill. Right—R. M. (MIKE) BUCKLEY, Executive Vice Pres. and Gen. Mgr., who recently moved to the new offices from Houston.**

type mill that started in a small way making only pulp on Feb. 14, 1937, it reached 150 tons in 1938, and now produces 480 tons of chemical pulp, and production of paper started in 1940. Real expansion of the facilities started in 1946, and since 1947 there has been a vast expansion—a groundwood mill, Thorne bleach plant, and paper mill expansion housing three paper machines and one board machine. Of pulp produced, 240 tons daily are converted to magazine and food container stock. No. 22 machine runs continuously in producing about 9,000 tons monthly of stock for *Life* magazine.

The Texas (Pasadena) Division has as its manager W. R. Crute, a veteran of the industry, with Karl R. Bendetsen, a former Army Department executive as assistant. I. D. Wells is mill manager; G. K. Smathers, pulp mill superintendent; Jerry Moyer, technical service director.

The mill has 1,775 employes of whom about half reside in Houston, the balance in adjacent areas. Of the total, about 145 are classified as managerial. The company's broad and interesting policies of educational and recreational activities for employes, along with community participation, is carried out under direction of A. M. Koury.

Mill odor control research and installations are significant—including precipitator installation and experimental masking. This is in an area noted for petroleum installations, also another industry characterized by atmospheric odor. Visitors will find the odor control activities of interest if they have similar problems at home.

### East Texas

Alkaline Conference visitors will find little to see at East Texas Pulp & Paper Co.'s Evadale mill, now under construction. "Mike" Buckley, executive vice president and general manager, is cordiality itself, as is A. G. Natwick, resident manager, but while work is progressing nicely, it is not far enough along to warrant the trip. Steel work is being placed for the mill, grounds and access roads prepared, and an attractive office is provided.

### Gaylord and Dallas Mills

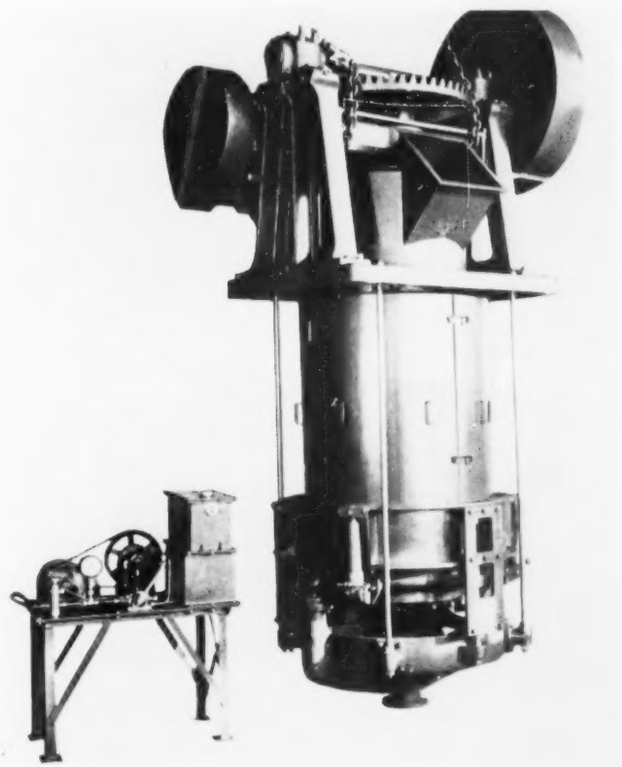
In nearby Dallas, Fleming & Sons, Inc., are adding a high yield pulp mill that will be equipped with the new Bauer Bros. bark separation equipment and Sprout-Waldron refining installations.

Gaylord Container Corp., at Bogalusa, La., has an interesting new flexible installation for preparing and processing hardwoods and pine separately. Always interesting to visit, the Gaylord mill is one of the nearest mills in an adjoining state where delegates to the Texas Conference would find a welcome mat for visitors. There are many developments of interest here, particularly their kraft semi-chemical pulping process, which was described and illustrated in a specially prepared article for PULP & PAPER in Nov. 1950 issue.

### Highlights of the Program

With Mr. Bishop as general committee chairman, Ken Running of Halifax Paper Co. is a key official in planning the meeting, having served as program chairman. Chairman for local arrangements is I. D. Wells, the mill manager at Champion, who said accommodations for delegates will be ample.

For the ladies, a boat trip on the ship canal, visits to the U.S. Battleship Texas and the San Jacinto battleground were

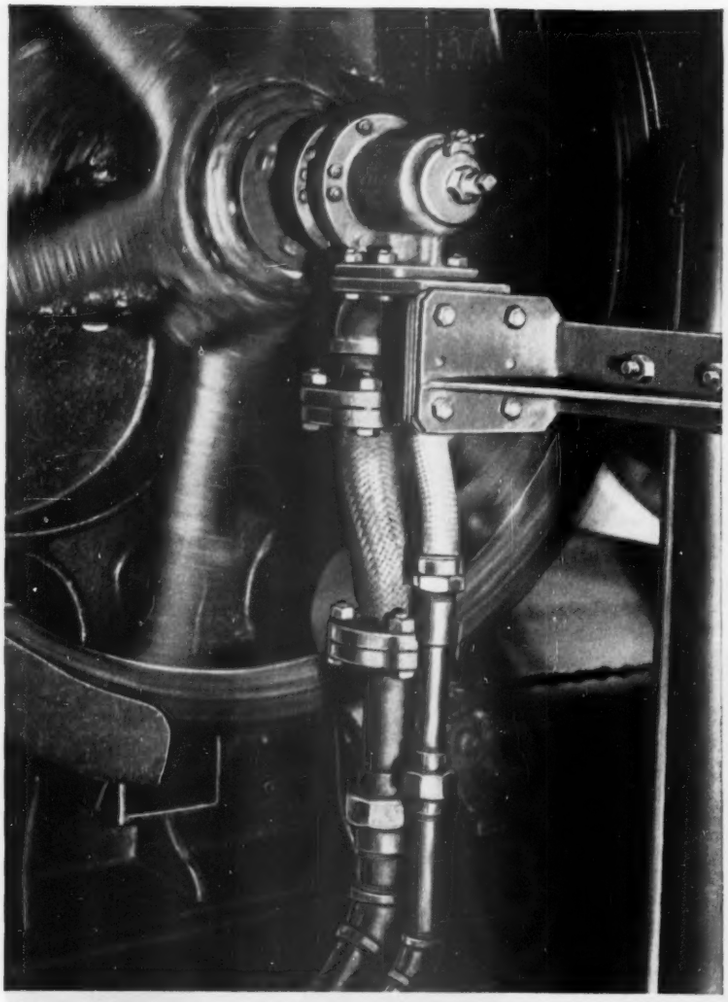


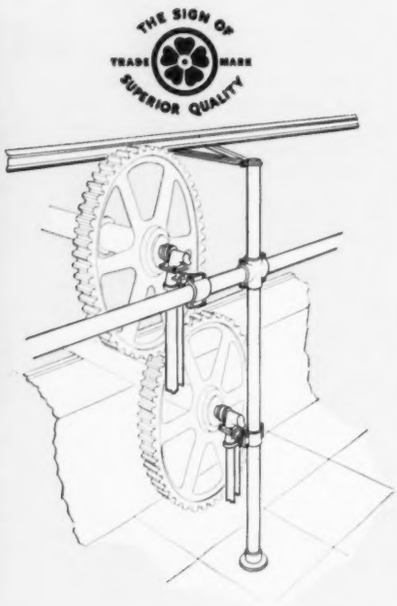
**(Above) SUBJECT OF HOUSTON PAPER**

**THIS NEW IMPROVED ZENITH PULP PRESS, manufactured by Jackson & Church Co., is being used at St. Joe Paper Co. on rejects, and is the subject of one of the technical papers at the Tappi Alkaline Pulping Conference in Houston, Tex. R. E. BRINGMAN, Chief Chemist at the Florida mill, was scheduled on the program to give the paper. Knots from the knotter screen and secondary rejects are put through the J-C pulp press. The press serves to compress much of the moisture from the fibers, leaving them in an ideal condition to absorb cooking liquor when they are sent back into the digester. These rejects are mixed with new chips in the digester, then recycled through the blow tank, knotter screen, etc., until they become accepted pulp. Advantages of the press are described as (1) improvement of black liquor recovery, (2) ability to save approximately 90 percent of rejects, (3) demands less floor space and (4) horsepower and (5) does not grind rejects to a point where they become fines. Knots are not broken into fiber bundles by the press.**

**(Below) NEWSPRINT SCANNER AT SOUTHLAND**

**THIS NEWSPRINT SCANNER is new piece of equipment which Houston Conference delegates will see at Southland Paper Mills in Lufkin, Tex. It was developed with Beta gauge for Southland by Tracerlab and is furnished recording equipment by Minneapolis Honeywell. At upper left are samples of Scanner profiles.**






At left: Puseyjones Improved Steam Joint with adjustable single drop-type siphon on Dry Part having open-type gearing. Flexible pipe connections incorporated in steam and water piping compensate for expansion or contraction in supply headers or branch connections.

Above: Special outside pipe structure required for modernization of Dry Part having open-type gearing.

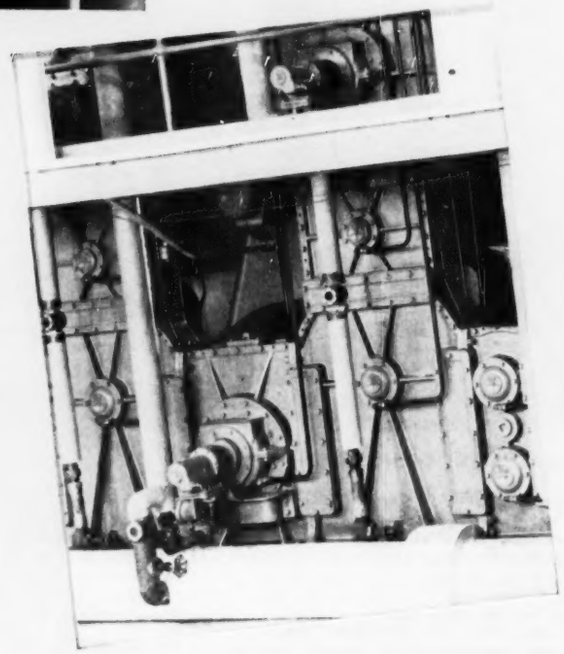
Puseyjones Improved Steam Joint with dual revolving-type siphon on new Dry Part having enclosed type gearing.

# *Modernize with* NEW PUSEYJONES STEAM JOINTS

When condensate drainage is slow and inadequate, operating speeds and drying rate are reduced. Power losses on your paper machine may range as high as 50%.

A machine modernization program with Puseyjones Improved Steam Joints is the first step in reducing power costs, increasing the drying rate and stepping up production. Many mills have discovered the advantage of keeping drying cylinders filled with steam through efficient condensate drainage. For complete information, let us send you a copy of the "Steam Joint Bulletin." Write today or call our District Representative near you.

**THE PUSEY AND JONES CORPORATION**
**Established 1848 : : Builders of Paper-Making Machinery**
***Fabricators and Welders of all classes of Steel and Alloy Products***
**Wilmington 99, Delaware, U.S.A.**



planned. Also fashion shows and luncheon at the Shamrock Hotel's Emerald room.

The luncheon speaker, Mr. Bendetsen, Champion assistant division manager, who comes from Grays Harbor, Wash., and Seattle, prior to serving as Undersecretary of the Army in the last administration, is expected to discuss matters of vital and broad interest to the industry.

Pulp screening, cleaning and washing are subjects that dominate the technical program with second day windup session on semi-chemical pulping. Dr. John N. McGovern, veteran of semi-chemical pulping research and process developments at the U.S. lab in Madison, Wis., will be featured. Also from Madison, Friedrich Aflenser is on that program.

Riegel Carolina's use of Bauer Centri-Cleaners and Nichols Vortraps on semi-chem pulp, H. F. Schenk of Magnus Metal discussion of flat screen control effects, high intensity screens for coarse papers at Gaylord, and the success of a new Jackson & Church press in the handling of pulp mill rejects at St. Joe are program highlights earlier that second day.

The technical program occupies the first two days (Nov. 18-19), the trips to mills the third. Papers on the first day open with a discussion of pressure washing equipment developed by Sutherland Refiner Corp., new successful compact units used successfully in a Pacific Northwest mill with graphic panel controls, Union Bag wash water heating, Cowan screens at Crossett, flat screens vs. Oliver Ahlfors screens as reported by Brunswick men, 4-stage vs. 3-stage pulp washing at Hudson Pulp & Paper are other first day's technical features.

PULP & PAPER learned that a previously unannounced paper of wide interest on fine screening practices is to be presented by a Swedish Cellulose Co. expert, Gustaf Ranhagen. The industry knows of fine screening from Sweden and the speaker will have developments of the past ten years at his fingertips. A Canadian researcher also will give a paper, his on soda residual in pulp.

# PROGRESS IN JAPAN'S ALASKA PULP PLAN

# NEW MISSION TO U.S.

*(Copyright, exclusive, by* PULP & PAPER, *1953)*

AN EXCLUSIVE REPORT TO PULP & PAPER from Tokyo reveals that a group of directors of the newly formed Alaska Pulp Co. of Japan was preparing to sail for the United States as this issue went to press. Their objective was to complete arrangements for financing a U. S. corporation to be known as the Sitka Lumber & Pulp Corp., with majority stock in American hands but producing pulp and lumber at Sitka, Alaska, for exclusive use of Japanese mills converters, and probably brokers.

In a copyrighted article in the Oct. issue of PULP & PAPER (page 54) official statements by spokesmen for the Department of Defense and the State Department in Washington were published. Both of these statements disclosed that these two top departments of the U.S. Government, as matters now stand, would not stand in the way of the Japanese project.

In the view of the State Department, the Japanese-sponsored project was favorably viewed because it "would materially assist Japanese economy" and "would be of real benefit in the economic development of a self-sustaining economy in Alaska." The Defense Department also mentioned the latter point as desirable for defense purposes and both statements indicated that they saw no threat to defense in the export of products from the government-owned timberlands in Alaska.

In hands of the State Department was a suggestion from American pulp marketing companies that the Internal Revenue Department take steps to insure that any products going to Japan would be valued at prevailing market prices, and *would not be put on world markets in unfair competition to U.S. pulp because of tax advantages.*

The latest report from Tokyo said that T. Sasayama, chairman of the board of the Alaska Pulp Co. would lead the new delegation from Japan.

The president, M. Kobayashi, was reported too ill to make the trip. This will be the third important Japanese mission to America on this project.

In Oct. 1952, an economic and diplomatic mission spent considerable time in Washington, D.C., and was given hearings by various interested government departments and the Forest Service, custodian of the Alaska timber, all of which is government-owned in the Southeast region of the territory where Sitka is located. The timber can be used only through contracts with the Forest Service and the so-called pulptimber units, of which Sitka is mill site for one. It must be sold at an open pre-announced auction sale in Washington. A technical mission from Japan visited Alaska early this year and was shown sites and timber by the Forest Service.

Some 32 rayon, acetate, pulp and lumber firms in Japan initiated the Alaska Pulp Co. They were to contribute over $4,000,000 in this company and last month PULP & PAPER reported the Japanese government was considering an appropriation of $10,000,000. The departure of a new financial mission to the U.S. possibly indicates this appropriation has now been assured.

Unconfirmed reports reached the U.S. State Department that a New York banking syndicate already was being formed to join in the project.

The Sitka Pulp & Lumber Co. was to be capitalized with about $12,000,000 from the Japanese investors, $3,000,000 from the New York group, and an additional $30,000,000 was to be borrowed from U.S. banks. It would then request the Forest Service to announce an auction sale for the Sitka timber, where it could enter a sealed bid.

The Japanese hope they can start lumbering within a few months, at first sending waste wood to Japan for pulp mills. A 100,000 tons-per-year pulp mill would be a 5-year objective, but a first unit would start up in the second year.

Extensive reports on the project in the Sept. and also Oct. issues of PULP & PAPER explained that American labor would be used and Forest Service regulations requiring processing in Alaska of all logs would be complied with.

## Hardwoods Uses In Southeast—Thax Small

The future of semi-chemical pulping in Georgia and Florida is very bright, in the view of Thaxter W. Small, Jr., sales engineer for Sprout, Waldron & Co., Inc. In a talk before Southeastern Tappi, he summarized the situation as:

"1. A wide variety of papermaking hardwoods exist in Georgia-Florida and their utilization is greatly out of balance with the pine.

"2. Demand for pine pulp will continue to increase as mills under construction go into operation.

"3. Demand for paperboard is expected to increase by 4½ million tons by 1960.

"4. Semi-chemical processes can economically produce hardwood pulp that can be used separately or with other pulps.

"5. Hardwoods can be easily pulped for direct manufacture into certain grades of paper, or pulped for bleaching and use in white papers, sanitary board, etc.

"6. If mills in the area develop utilization of hardwoods, there should be considerable room for expansion, or more, mills."

## Ed Flood Dies

Edmund Everett Flood, president of Pacific Paperboard Co., Longview, Wash., since 1941, died in Longview, Wash., Sept. 12. He was 72 years old. Prior to entering the paper industry in Longview he was a Spokane banker and was prominent in Eastern Washington Republican activities.

# THE CHANGING PULP WORLD

## SELF-SUFFICIENCY ACHIEVED IN NORTH AMERICA—LARSON

A COMPLETE STATEMENT of the position of the North American woodpulp industry in the world today was presented by L. K. Larson, Weyerhaeuser Timber Co., at a meeting of Book, Writing and Groundwood Associations in late September. In the statement of position, Mr. Larson reviewed the background of the industry for the past two decades, and pointed out that during this period North America had become self-sufficient in wood pulp supply, and, furthermore, was now very much interested in world fiber markets.

The statement by Mr. Larson may be considered an authoritative stand of the pulp producers in the United States. The following excerpts are highlights of his statement:

"North America's interest in world fiber markets has become a majority instead of a minority interest. Prewar, this continent's production of woodpulp was substantially less than Europe's; currently, it is 2½ times European production. Reliance on Europe for basic fiber needs, in the past, has resulted in excessive inventory cycles, and these cycles in turn have been largely responsible for the erratic behavior of markets, prices and profits in the North American pulp and paper economy. Currently, North America is not only independent of overseas fiber supply sources, but has export surpluses that should, in the next decade, reach very substantial proportions. . . .

"The experiences of World War II taught this country, in no uncertain terms, that continued dependence upon overseas supply sources for its basic fiber requirements can never be consistent with the objective of national security. This lesson was underlined and re-emphasized during the Korean War when controls were reinstituted to remedy the situation created when foreign suppliers diverted an important quantity of fiber from the American market to more profitable markets elsewhere. . . .

"Changes in the pattern of world supply, in the case of chemical woodpulp, the area of supply in which world competition has always been most severe in the past, have been as follows: North America produced 43 percent in 1937 and 66 percent in 1951; Scandinavia 34 percent in 1937 and only 19 percent in 1951; all others 23 percent in 1937 and 15 percent in 1951.

"Only in North America has there been any significant growth of woodpulp supply since 1937. Postwar pulp production in the rest of the world has been consistently below prewar levels. Nor is there any prospect that these recent trends will soon be altered. North America, fortunately, has both the economic resources and the wood resources to permit expansion; the rest of the world does not. Technological progress in forest management, utilization of hardwoods, and recovery of wood previously regarded as waste will preserve and expand our available wood resources. . . .

**Market Wood Pulp Production**

| | *1937* | | *1952* | | *1952 as a % of 1937* |
|---|---|---|---|---|---|
| | *Tons* | *Percent* | *Tons* | *Percent* | |
| North America | 1,978 | 26.6 | 3,376 | 45.6 | 170.6 |
| Northern Europe | 5,466 | 73.4 | 4,035 | 54.4 | 74.0 |
| Total | 7,444 | 100.0 | 7,411 | 100.0 | 99.6 |

"Progress in the utilization of bagasse, reeds, straw, and other fibrous materials, all of which have provided potential competition for woodpulp for a hundred years, is unlikely to advance soon, if ever, to the point where these materials can challenge woodpulp as a basic processing material for fiber-dependent industries. . . .

"Productive capacity in North America continues to expand. Total woodpulp capacity in the U.S., by early 1955, will exceed 1952 capacity by 13½ percent, 1946 capacity by 75 percent, and 1937 capacity by 163 percent. Canadian capacity, by early 1955, will exceed her peak postwar production by 12½ percent and her peak prewar production by 91 percent. . . .

"The shift in demand lies in the significant changes in the pattern of U.S. consumption that have occurred since 1937. Outlets for woodpulp in the U.S. are far broader in scope and far more diversified in character than they were 15 or 20 years ago. The market trend toward end-product diversification and spectacular growth of new uses that were relatively minor 20 years ago, more than anything else explains and justifies the recent growth of fiber demand in U.S. markets.

"Fastest growing outlets for woodpulp in the domestic industry have been those that consume paper and paperboard for packaging, building or sanitary uses. The recent expansion of the North American woodpulp industry has been designed primarily to meet requirements in these fast-growing segments.

"Several factors have contributed to the recent spectacular growth of paper consumption for packaging, building and sanitary purposes. Most important, perhaps, has been the vertical integration of ownership of productive facilities in these particular fields. This has led to improved productivity, to lower over-all production costs, and most important to an intensive concentration of sales effort on end-products rather than intermediate products in the channels of distribution, with continual emphasis on the development and promotion of new products.

"So revolutionary has been the change in domestic outlets for woodpulp that more than one-tenth of the wealth generated annually by the entire industrial economy of the U.S. is now based on the production and conversion of woodpulp and its products.

Approximately 95 percent of the total volume of pulp offered for sale in world markets is produced either in North America or Northern Europe. Comparative data showing recent changes in the relative importance of these major supply sources are shown above:

"The tendency in both of these major producing regions has been to convert relatively more of their total pulp production to paper and paperboard in integrated plants, and to offer relatively less for sale to independent paper and paperboard mills. The extent to which this trend toward integration has affected world market pulp supply is indicated in comparative figures showing market pulp production in North America in 1952 was only 13 percent of total pulp production as compared with 17 percent in 1937, and market pulp production in Northern Europe was only 61 percent of total production in 1952 as compared with 72 percent in 1937.

"Indications are that the trend toward integration of productive facilities will continue in Scandinavia and since wood shortages mitigate against any significnat increase in Scandinavia's total pulp capacity, further integration can only serve to reduce further the importance of Scandinavia as a future source of supply for market woodpulp.

North America, in contrast, is currently undertaking a significant expansion of its facilities for the production of market pulp. During the next few years, the rate of increase in North America's market pulp capacity will exceed the rate of increase of capacity for the production of own use pulp.

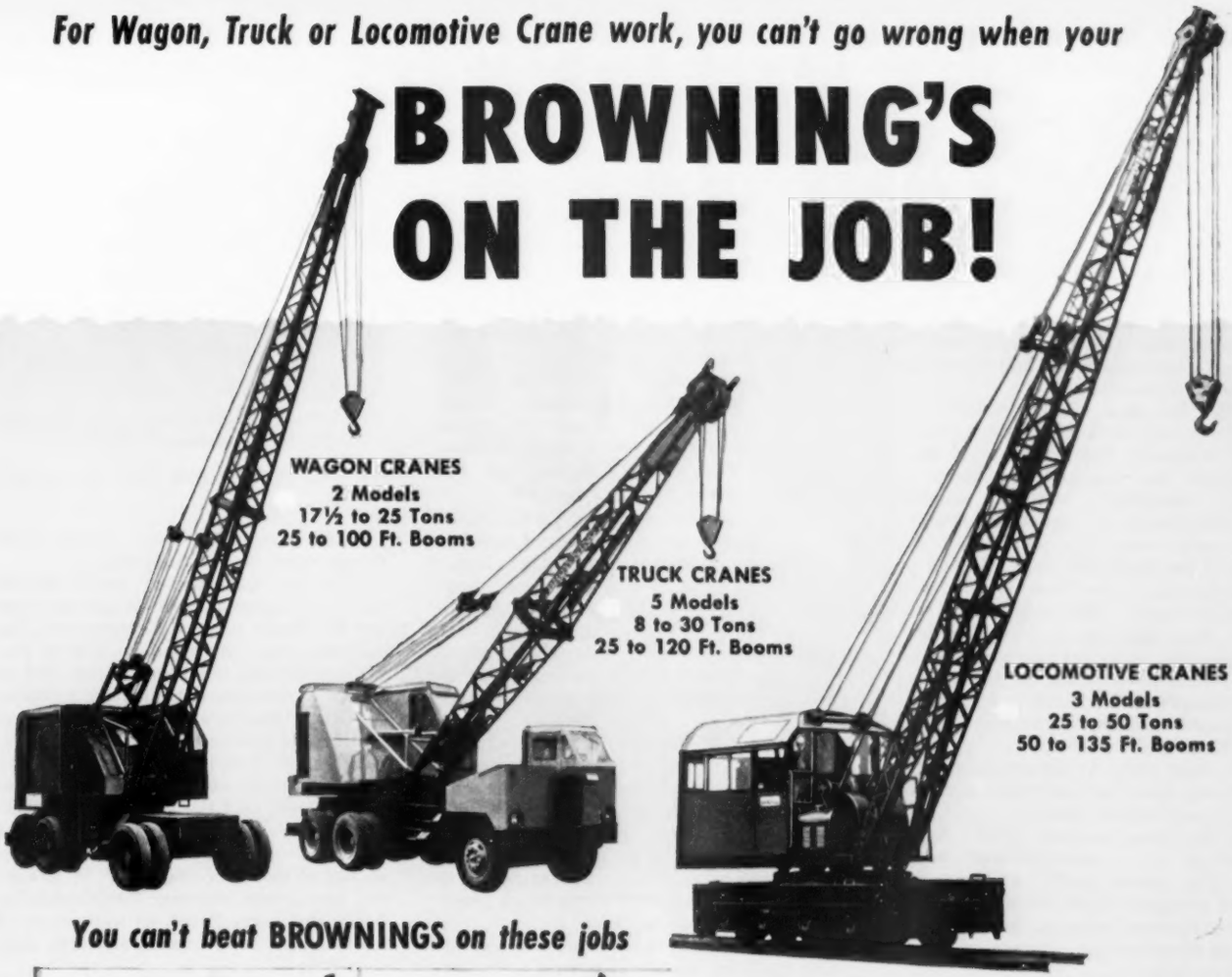
"There is every prospect, therefore, that within a few years North America's market pulp production will materially exceed Scandinavia's, and that the rest of the world, more and more, will look to North America for essential fiber requirements.

"In Great Britain, and in varying degree, in most of the other countries in the Old World, a steady and significant long-term rise in market pulp requirements is expected. More fiber will be needed, not only for the manufacture of rayon and other new fiber-based products, but, of far greater significance, for the restoration and development of basic paper and paperboard economies. Only through increased imports of market pulp can these basic economic needs be met.

"In the past, these Old World markets have looked primarily to Scandinavia for the satisfaction of their basic fiber requirements. In the future, because of the changing pattern of market pulp supply, they must look to North America for an

*For Wagon, Truck or Locomotive Crane work, you can't go wrong when your*

# BROWNING'S ON THE JOB!



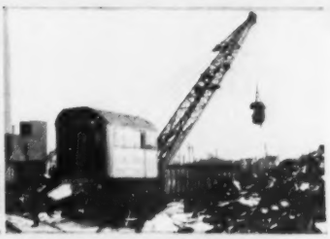
**WAGON CRANES**
2 Models
17½ to 25 Tons
25 to 100 Ft. Booms

**TRUCK CRANES**
5 Models
8 to 30 Tons
25 to 120 Ft. Booms

**LOCOMOTIVE CRANES**
3 Models
25 to 50 Tons
50 to 135 Ft. Booms

## *You can't beat* BROWNINGS *on these jobs*

HEAVY MATERIALS HANDLING

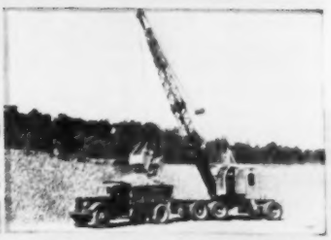


CAR LOADING AND SWITCHING

STEEL ERECTING

SCRAP YARD PICK-UP

RAILROAD MAINTENANCE



SAND AND GRAVEL LOADING

## Browning builds the only complete line of cranes for all heavy-materials handling

**TRUCK CRANES** with independent control of each function *separately* or *simultaneously* on all models. High-speed maneuverability in worst conditions. Short wheelbase for operation in close quarters.

**SELF-PROPELLED WAGON CRANES,** originated by Browning. Rubber-mounted, one man operation, with the power, smoothness and versatility to operate efficiently and economically on a wide variety of crane work.

**DIESEL AND TORQFLO LOCOMOTIVE CRANES** with unequaled power for switching. Fast, easy controls for maximum productive operation. Rugged design and construction for year-in, year-out dependability.

**BROWNING** can recommend, and deliver the *right* crane model for your job. Our fifty-four years' experience as crane specialists is yours for the asking. Write us for complete information.

**THE BROWNING CRANE & SHOVEL CO.**
Dept. E, 16226 Waterloo Road, Cleveland 10, Ohio

**BROWNING**
LOCOMOTIVE, WAGON TRUCK AND CRAWLER *Cranes*

ever-increasing share of their total pulp needs. The expansion of market pulp capacity in North America is supported, in part at least, by a firm conviction that the Old World will solve its economic problems, improve its productivity, and enjoy a steady improvement in its basic standards of living.

"Twenty years ago, North America imported from the Old World seven times as much pulp as she shipped to the Old World. In 1951 and 1952, for the first time in peace-time history, North America shipped more pulp to the Old World than she received in return.

"Thus the goal of self-sufficiency in woodpulp has already been achieved in North America. The future problems of the North American pulp and paper industry, accordingly, will be primarily problems generated from within this continent rather than from without. The stability of the North America pulp and paper industry, in the future, will depend primarily upon the intelligence with which these domestic problems are faced and resolved. Overseas imports of woodpulp should never again be the controlling influence in the North American pulp and paper economy that they have so often been in the past.

"The next phase in the development of the North American pulp and paper industry, now that the goal of . . . self-sufficiency has been reached, should be the emergence of a soundly-based export trade. The success of this endeavor will depend primarily upon the ability of the North American industry, in the future, to meet Scandinavian competition in Old World markets."

# CHERRY RIVER MEMORIES STIR OLDTIMERS

DISMANTLING of the Cherry River Paper Co. plant at Richwood, W.Va., soon after World War II and the abandonment of the company as a sales organization three years ago may have escaped the attention of many industry veterans—some of whom had connections with the company during its interesting existence. Some of the background of this famous company came to light through questioning by PULP & PAPER of such men as Harvey E. Moore, general traffic manager of Kieckhefer Container Co.; Hod Mullen, Washington representative of APPA; Alf Z. Nelson, forest economist with National Lumber Manufacturers Assn., and Joe Janacek, Inland Empire Paper Co.

Parent company of Cherry River Paper Co. was the Cherry River Boom & Lumber Co. Cherry River Paper was built at Richwood, W.Va., in 1906 with a capacity of 3,000 tons per month converted to specialty boards. When wood from the area became scarce in 1937, pulp was imported from abroad until costs became prohibitive and the mill was put up for sale in 1939.

Kieckhefer Container Co. bought Cherry River at the time and kept it operating until after World War II. At that time Richwood was dismantled and all usable machinery moved to the Kieckhefer subsidiary at Plymouth, N.C., North Carolina Pulp Co. Cherry River was retained as a sales organization until about three years ago when it was disbanded, too.

Mr. Moore, who was traffic manager at Cherry River and who moved with the sale over to Kieckhefer, recalls these things about the old company:


First office of Cherry River Paper Co., Richwood, W.Va.

"The last manager of the Richwood mill was George M. Snyder, who later ran the St. Regis mill at Cantonment, Fla., and who is now in retirement. J. M. S. Ewing was the last manager of sales, and he is now in retirement at his farm at Havre de Grace, Maryland. C. H. Morian, last president of Cherry River, is also in retirement. J. S. Collins, the first manager, was the builder and promoter of the enterprise, and sold the idea to J. W. Oakford, president of Cherry River Boom & Lumber Co. Mr. Collins died with his shoes on, full of ideas and energy. U. W. Borchers, now credit manager for Kieckhefer, was with Cherry River, as were many of the mill staff now working at North Carolina Pulp."

# BRAZIL MILL PLANS FACE DIFFICULTIES

THE BRAZILIAN GOVERNMENT Trade Bureau's announced plans for three huge pulp and paper mills to be built along the Amazon river (see PULP & PAPER, Sept. 1953), would have to overcome many serious obstacles before realization, according to some United States trade sources. The Brazilian reports contemplated a production capacity of a thousand tons of pulp a day for a combined yearly production of at least 900,000 tons. Supply of pulpwood was to be the vast Amazon forests, with wood being floated to the mill sites along the river and tributaries. Brazil's Ministry of Agriculture was reportedly promoting the idea and inviting foreign capital to participate.

Trade sources point out that the forests of the area are made up principally of short-fibered mixed tropical hardwoods that are not ideal for pulp manufacture. They point out a further difficulty in plans to float pulpwood to the mills—many of the hardwoods won't float and others soon become waterlogged. There is also a serious shortage of chemicals in Brazil—particularly of caustic soda—so that this factor would make difficult any large-scale pulp manufacture at the present.

Labor and power are also problems. An indication of the scope of the power problem may be gleaned from a proposal made by a young engineer. He suggested that


power for the mills be supplied by freighters coming in to take out the pulp and paper. At each mill, as one ship left with its cargo, the second would move in, hook up to the power lines to operate the mill until it was loaded, by which time the first ship would have returned.

One U.S. industry executive who has spent considerable time in Brazil suggested the talk about the three mills is principally aimed for domestic (Brazilian) consumption. Brazil has a dollar shortage, so plans to reduce it by the estimated $30,000,000 annually make good reading, he pointed out.

## Laura Neese Has Second Exhibit in Chicago

Laura J. A. Neese, wife of the chairman and former president of Beloit Iron Works, won high tributes in Chicago for her second exhibition in that city in two years of her water colors and paintings. They were shown at Findlay Galleries on Michigan Boulevard Oct. 19-31, including Quebec, Arizona, Hawaii and European scenes as well as portraits. Many industry people have seen her exhibits at the Institute of Paper Chemistry and U. of Maine.

## Lockport Felt To Build Plant in South

Lockport Felt Co., Newfane, N.Y., has announced plans to start construction of a felt manufacturing plant at Starkville, Miss., as soon as official agreements can be executed after a $300,000 bond issue for a building to lease to Lockport was approved by Starkville voters.

Major operations will continue at Newfane, but the new plant will serve the greatly expanded Southern industry from Maryland to Texas, said Raymond J. Lee, president. Raymond J. Capen, with Lockport 26 years, will be superintendent at Starkville.

ILLUSTRATION BULKLEY, DUNTON ORGANIZATION

# Scrolls for the Emperor

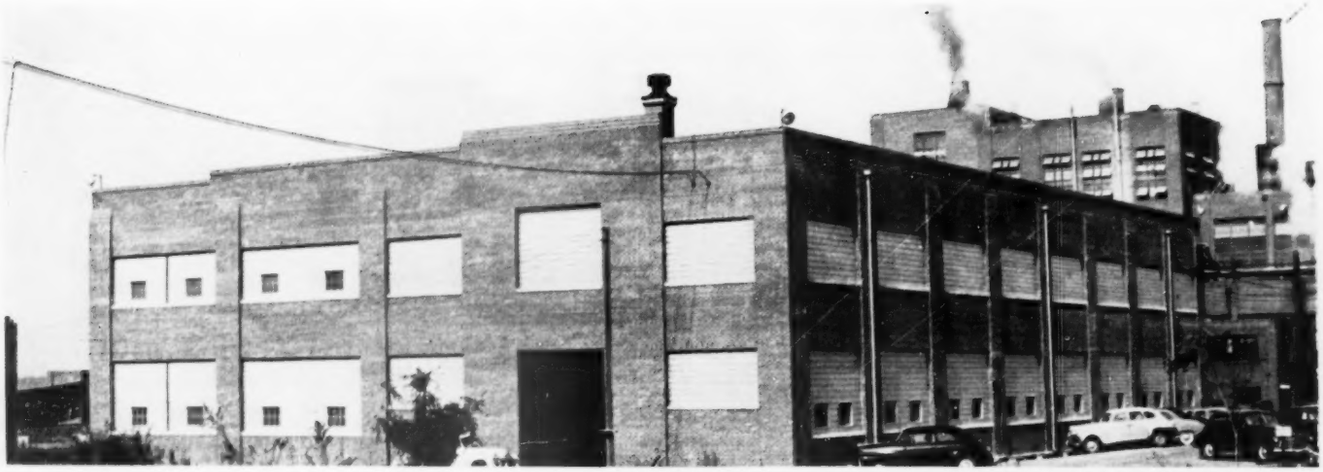
The art of making paper from fibrous matter has been traced back some 2,000 years to the ancient Chinese. Scholars credit Ts'ai Lun with the making of the first true paper during the reign of the Emperor Ho Ti from the bark of trees, hemp and discarded cloth. In 1873 the Swedish engineer, C. D. Ekmann, perfected a process for making high grade paper pulp by cooking wood chips with calcium bisulphite.

Today the pulp and paper industry is one of the major consumers of Sulphur, taking about 400,000 long tons annually. Compounds of Sulphur are indispensable reagents in the two major cooking processes for converting wood to pulp. From the pulp come newspapers, magazines, books, boxes, wrappings and an almost endless list of other paper products.

FREEPORT SULPHUR COMPANY, *oldest United States producer of crude sulphur, has been supplying this essential raw material for over 35 years.*

**FREEPORT SULPHUR COMPANY**

OFFICES: 161 East 42nd Street, New York 17, N. Y. • MINES: Port Sulphur, Louisiana • Freeport, Texas



**EXTERIOR OF MACHINE SHOP** and maintenance building of Chesapeake Corp. of Va. Engineering and construction was by Tidewater Construction Co., with design by Tidewater and Chesapeake engineers. This building houses repair facilities, with main work floor large enough to handle inside repair of heavy items any time of year.

## CHESAPEAKE OF VIRGINIA'S NEW MAINTENANCE BUILDING

# MODEL MILL MACHINE SHOP

THERE IS MORE to the operation of a good pulp and paper mill than the equipment to make pulp and paper; or the "know-how" to make this equipment do its job. Equipment is only as good as its maintenance over the years, with maintenance, therefore, playing a major part in performance.

That is why there is a real story in the new machine shop and maintenance building of The Chesapeake Corp. of Virginia, West Point, Va., which was completed this year. Into this building went the same careful planning.

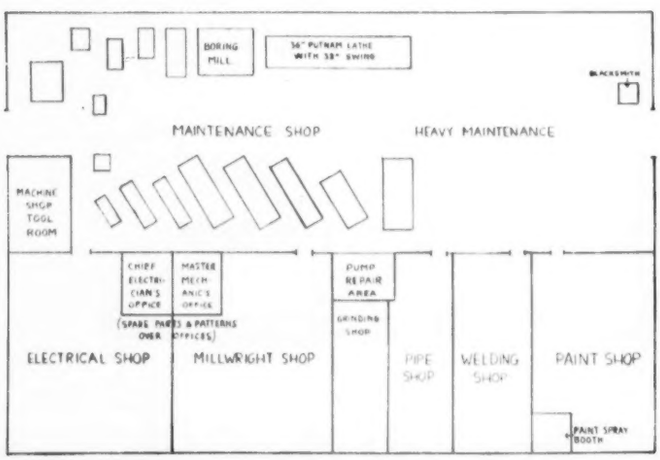
A complete new modern brick and glass block building was constructed. Engineering and construction was by Tidewater Construction Co., Norfolk, Va., with Chesapeake's engineer contributing largely to the design combined in many of the fine details of the building. The building is a long-time dream come true, and into which they have tried to incorporate every idea they could muster to make maintenance and machine work efficient—and pleasant.

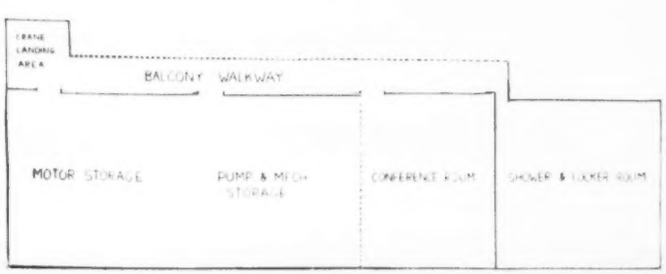
**TWO MEN PRINCIPALLY INTERESTED** in new machine shop and maintenance building of Chesapeake Corp. of Va. are **O. H. SIKES** (left), Superintendent of Maintenance and Construction, and **R. M. TOKARZ**, Plant Engineer.

The 2-story building is 160 ft. long and 110 ft. wide, and rests on piles, with a base over the piling of 12-in.-thick concrete for the shop floor. The outer walls are of 8-in. brick, with wire-ribbed safety glass block providing diffused lighting for the entire building. The 20-year bonded roof is of pre-cast concrete slab with 1-in. Fiberglas insulation over the machine shop and 1½ in. insulation over the hot motor storage room. Partitions are of 8-in. cinder blocks.

Feature of the building itself is that it provides separate working space and quarters for heavy maintenance; machine shop facilities; blacksmith shop; paint shop; grinding shop; pipe shop; carpenters shop; electrical shop, welding shop; private offices for the master mechanic and chief electrician; storage space for motors and pumps; and a separate tile-lined locker room with shower facilities! Planning also provides for equipment hoped-for in the future.

The heavy maintenance area occupies approximately 60 x 60 ft. of ground floor. The door opening is large enough to admit crawler cranes and tractors, so that the heaviest equipment can be repaired and serviced indoors at any time of the year. A 7½-ton Manning, Maxwell & Moore overhead crane spans the 60-ft. width and




***CHESAPEAKE CORP. OF VIRGINIA NEW MAINTENANCE BLDG.***

**Floor plan at left shows layout of main floor; at right diagram of mezzanine.**

# COLORS FOR PAPER

## organic

| | | | | | |
|---|---|---|---|---|---|
| dyes | Acid<br>Basic | Direct<br>Spirit | Sulfur<br>Vat | pigments | Calcotone* Pastes<br>Lakes and Pulps<br>Helmerco*<br>(Molybdate & Tungstate Lakes) |

## inorganic pigments

| | | | |
|---|---|---|---|
| natural | Burnt Sienna<br>Raw Sienna<br>Burnt Umber<br>Raw Umber<br>Ochres | manufactured | Blacks—Mineral & Paris<br>Coating Pulps<br>Chrome—Greens, Oranges & Yellows<br>Calcotone Pastes<br>Molybdate Oranges<br>Red Iron Oxides<br>Ultramarine Blues (Dry and Pulp)<br>Unitane® (Titanium Dioxide, Anatase and Rutile) |

## miscellaneous & specialties

Calcofluor* Whites (Whitening Agents)
Calcotone* (Pigment Dispersions)
Dybrytes (Bleed Fast Alcohol & Water Soluble Dyes)
Sap Brown—Crystal and Powder  Dark Brown S
Soluble American Blue (Soluble Iron Blue)
Spirit Dybryte* (Bleed Fast Spirit Soluble Dyes)

*Trade-mark

Calco®

AMERICAN Cyanamid COMPANY

CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT
BOUND BROOK, NEW JERSEY

# *let's do it up Brown with*

## PHENO BROWN 3GXX SUPER CONC.

## DUSTLESS

**What . . .**
Bag, tissue, wrapping, board and specialty papers.

**How . . .**
With PHENO BROWN 3GXX SUPER CONC., DUSTLESS, of course.

**Where . . .**
In the beaters, hydropulpers, mixing chests and tanks, fan pumps and head box.

**Why . . .**
To obtain a variety of shades from rich deep brown to conservative pastel tints.

Its economy and excellent working properties make PHENO BROWN 3GXX SUPER CONC. DUSTLESS an excellent choice to *do it up brown.*

**SEE REVERSE SIDE** for a listing of Calco's many efficient colors for paper.

NORTH AMERICAN CYANAMID LIMITED
CALCO CHEMICAL DIVISION
MONTREAL—TORONTO

Calco

*AMERICAN Cyanamid COMPANY*
CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT
BOUND BROOK, NEW JERSEY

NEW YORK • CHICAGO • BOSTON • PHILADELPHIA • CHARLOTTE • PROVIDENCE

runs the full length of the building to facilitate handling of heavy equipment and parts.

The blacksmith shop, with forge, is set in the heavy maintenance area, and beyond this, occupying the balance of open area of the ground floor, is the maintenance shop with its quota of lathes, boring, milling and drilling machines. In one corner of the maintenance shop is the machine shop tool room, with the roof of this room serving as a landing for motors and pumps being transported to and from the storage rooms on the mezzanine.

Occupying the other half of the ground floor are offices of the chief electrician and master mechanic, glassed in so they can observe activity on all sides, and the separate shops for the various maintenance facilities.

At one end is the electrical shop which is equipped with an overhead monorail system with electric control for handling heavy motors. This section also has a 10 x 30-ft. baking oven for moisture evaporation from motors and for drying varnishes on motor windings.

Over the two offices is a storage section for spare parts and patterns, and adjoining the electrical shop is the next largest area—the millwright shop. Next is the grinding shop, equipped with a Hanchett Mfg. Co. size 170, Type A-K knife grinder. At one end of this shop is a partitioned small area for pump repair.

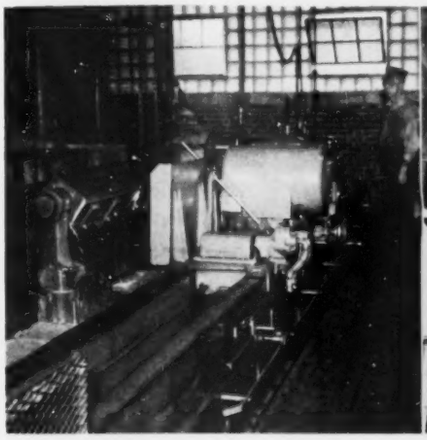
Next in order are the pipe and welding shops, with the paint shop occupying the other end of the building from electrical. Features of the paint shop include a Binks Mfg. Co. spray booth with exhaust system; special ladder storage (see photos); and a large, well-lighted work area for general hand painting.

The mezzanine extends only over the separate shops since maintenance and machine shop areas are open to the roof. At one end of the mezzanine is the motor storage area. Motors are lifted from the ground floor by crane to the landing area above the machine shop tool room where they are landed on a pallet, and then carried by fork lift truck to the storage room. There are four tiers for motor storage with each section numbered. On a blackboard at one end of the room a running chart is kept of the location of each motor in storage.

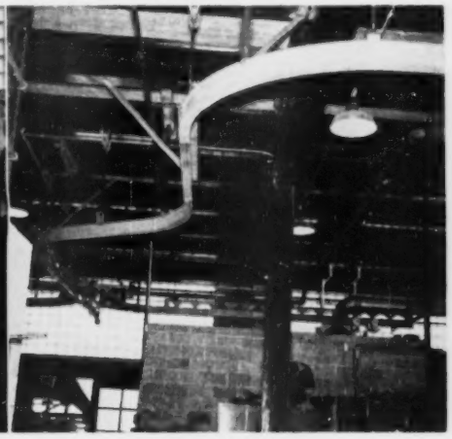
Beyond the planned conference room is one of the features of the whole building—a large locker and shower room. There are 140 lockers in this area, 12 showers and modern washing and toilet facilities. The locker room is lined with carborundum tile with slip-proof tile in showers. There are four large bays of 8-in. glass block to provide good lighting for the room, and ventilation is by Winco aluminum ventilators.

West Virginia employs a total of 8,200 persons at its six plants, and the daily capacity of these plants is approximately as follows: Charleston, S.C.—900 tons of kraft liner board and kraft paper; Covington, Va.—600 tons per day of white converting paper and board, kraft envelope paper, and corrugating and fibreboard; Luke, Md.—335 tons of white printing, fine and converting papers; Tyrone and Williamsburg, Pa.—145 and 85 tons respectively, of white printing, fine and converting papers; and Mechanicville, N.Y.—250 tons of white, fine and converting papers.

West Virginia has a sound basis for continued operation and growth in 750,000 acres of timberland, mostly in North and South Carolina, and a 20,000-acre experimental forest for improved forestry techniques near Georgetown, S.C.

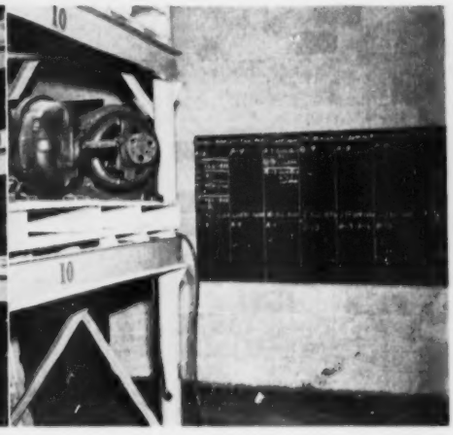


KNIFE GRINDING ROOM (above, left), is in center of machine shop—flanked on one side by plumbing shop and on other by carpentry shop. The grinder is a Hanchett Mfg. Co. Size 170, Type A-K machine driven by Louis-Allis motor with Vickers flow control and overload relief valve.



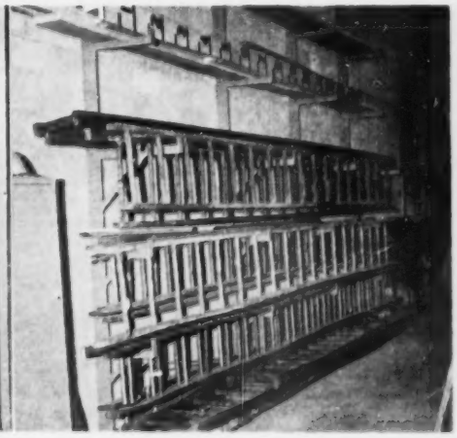
OVERHEAD TRAMRAIL SYSTEM (right), is used in electrical shop for handling heavy equipment brought in for repair. Heavy motors, for example, can be worked on here, then lifted by crane from machine shop main floor to mezzanine for motor storage by pallet and fork lift truck.

EASE OF HANDLING AND ACCURATE BOOKKEEPING on equipment feature motor storage area on mezzanine floor of machine shop at Chesapeake.




There are four tiers for motor storage, each section numbered. Note blackboard (right) where motor storage space is recorded.

PAINT SHOP IS SOMETHING SPECIAL at Chesapeake. Note paint spray booth (left) which is equipped with exhaust to draw off volatile spray, and special



ladder storage area (right) where you can even tell the length of ladders. Opposite side of shop is for sanding and hand painting small items.

## *for sulfate digesters*

**HONEYWELL INSTRUMENTATION INCLUDES:**

- Automatic control of digester pressure relief. An *ElectroniK* Controller measures both digester pressure and temperature. The instrument is so designed that the temperature and pressure pens coincide when saturated steam conditions prevail. The instrument automatically maintains saturation conditions by regulating the top relief valve.
- Program control of cook. An *ElectroniK* Integral Cam Program Controller automatically regulates the prescribed time-temperature cycle for the cooking operation.
- Automatic timed blow-back system.

**TYPICAL SULFATE DIGESTER CONTROL SYSTEM**

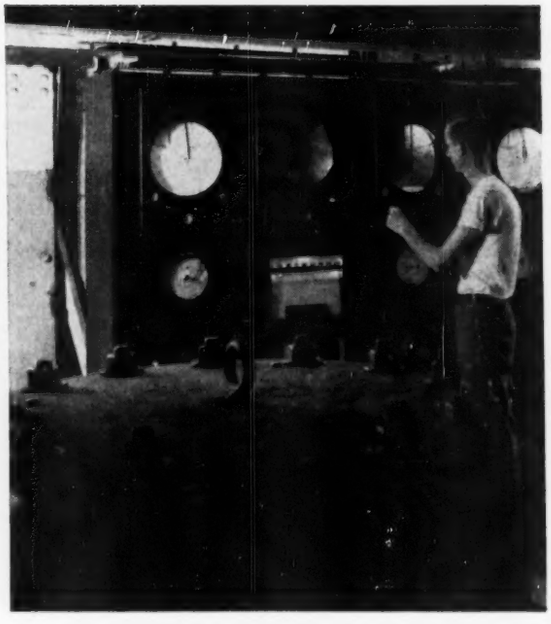
is shown in diagram. The cook cycle *ElectroniK* Programmer can be connected to a single control thermocouple, or, as indicated, to several couples to record average digester temperature. Photo shows the Honeywell control panel for a sulfate digester at Crown Zellerbach Corporation, Camas, Washington.

# Modern ways to improve *through*

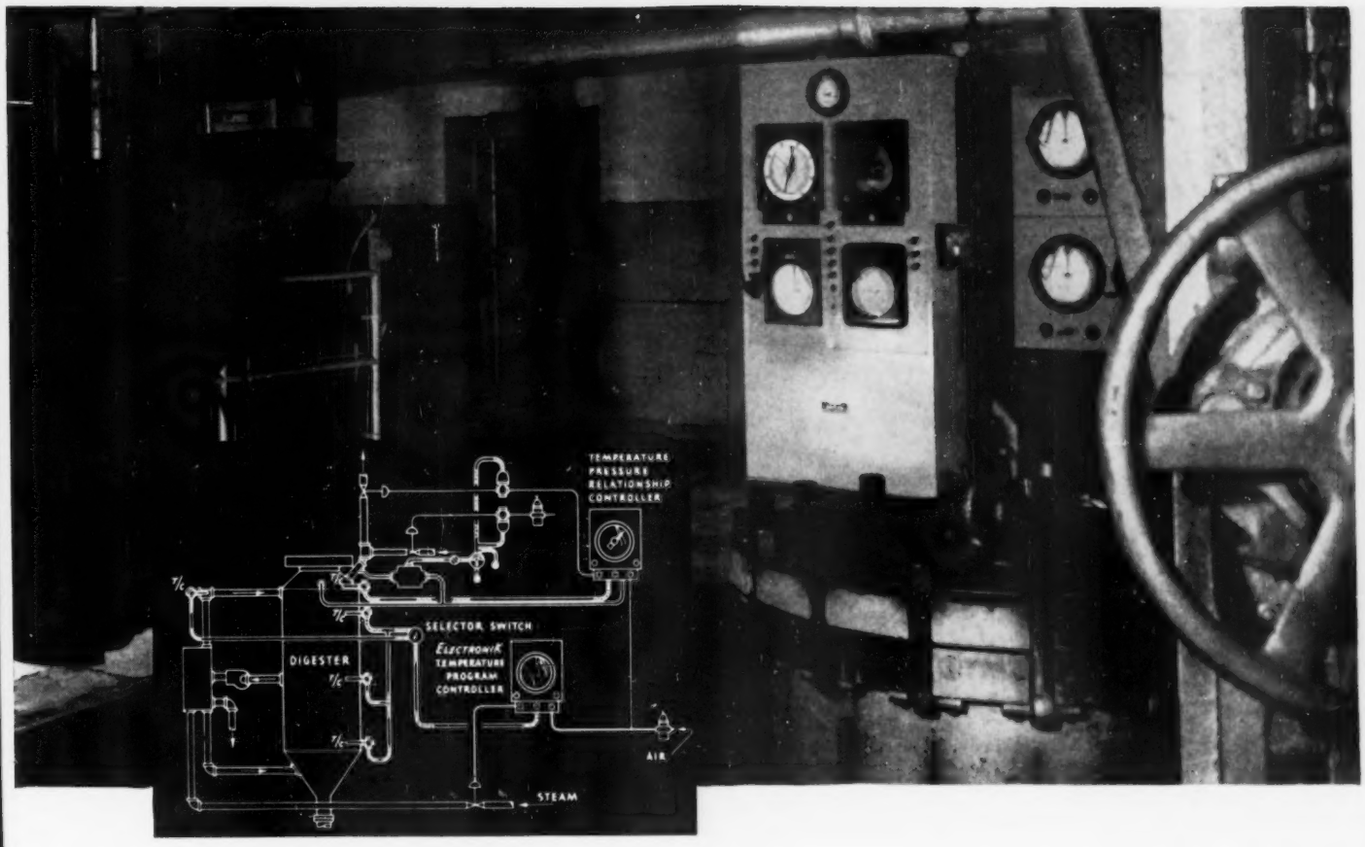
## *for sulfite digesters*

**HONEYWELL INSTRUMENTATION INCLUDES:**

- Time-temperature control of digester. An *ElectroniK* Integral Cam Programmer automatically duplicates cooking cycles to produce identical temperature relationships for every cook.
- Combined control of temperature and pressure programs. A single instrument, with two pens and two cams, controls both the time-temperature and time-pressure cycles to give coordinated control of the cooking operation; saves panel space, and simplifies supervision by recording related variables on a single chart.



*Section of a sulfite digester panel at Raquette River Paper Mill, Potsdam, N. Y., includes Brown Cam-Operated Thermometer Programmers, ElectroniK Programmers, pressure gauges and multipoint ElectroniK Temperature Recorder.*




# digester efficiency–
# *Honeywell instrumentation*

SULFATE AND SULFITE digesters can operate with greater uniformity when they are equipped with modern Honeywell instrumentation. Through the use of automatic program control and related instrumentation, the charge is cooked with minimum supervision and operator attention . . . with all critical variables accurately duplicated from one cook to the next.

Whatever your specific digester needs for precise automatic control of temperature, pressure and flow, you'll find that the Honeywell instrument family covers all requirements. Included in this broad line are thermometers, pressure gauges, *ElectroniK* potentiometers in many varied models, and a complete selection of control systems. Supplementing these is a wide choice of thermocouples, control valves, and accessories.

Throughout the country, Honeywell control installations are in service on sulfite, northern sulfite, southern kraft and semi-chemical digesters. For southern kraft cooks, the most difficult to control, Honeywell has developed a system which records digester temperature and pressure *and* controls the relief and automatic flowback . . . all in one instrument.

Whether you're interested in digester instrumentation or in any other control problem throughout the mill, your nearby Honeywell field engineer will be glad to discuss your application. Call him today . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Aves., Philadelphia 44, Pa.

● **REFERENCE DATA:** Write for Bulletin 1502 on Integral Cam *ElectroniK* Programmers, Catalog 6020 on Cam Operated Program Controllers — and for a sample quotation on a Digester Control System.

MINNEAPOLIS
**Honeywell**
BROWN INSTRUMENTS
*First in Controls*

# MORE HARMAC PULP

## EXPANSION MAKES IMPROVEMENT POSSIBLE

IT TAKES IMAGINATION, technical skill, abundant raw materials and a lot of other things, including capital, to build and operate a pulp mill successfully. The organization behind the Harmac bleached sulfate mill of MacMillan & Bloedel, Ltd., near Nanaimo on the east coast of Vancouver Island, B.C., has had all these in its favor—and, in addition, the fates have been wonderfully kind to Harmac.

Harmac has been spectacularly successful right from the start. It just seemed as though nothing could go wrong. This doesn't mean that Clifford Crispin, vice president, pulp department; Bill Locke, general manager at Harmac; Resident Manager Larry Harris and Superintendent Einar Walloe haven't had their moments of difficulty and exasperation. Luck is no substitute for careful planning, hard work and competent execution. But for one reason or another Harmac has been widely acclaimed as a model mill.

Yet ten years ago the top men in what is now MacMillan & Bloedel had no thought of entering the pulp production field. Their minds were on other things, mostly lumber. H. R. MacMillan, now chairman of the board, gave all his time to his sawmills and plywood plants and the export trade. Prentice Bloedel, now vice chairman with W. J. Van Dusen, was similarly preoccupied with lumber and shingles as president of Bloedel, Stewart & Welch.

But soon after the end of World War II, Mr. Bloedel recognized the importance of integration in the forest industry. His company built an unbleached sulfate mill at Port Alberni, Vancouver Island.

About the same time, Mr. MacMillan began to dream of pulp mills, too, and for the same reason. The Harmac mill was the result, and when MacMillan and Bloedel joined forces, the new company became not only the largest producer of sulfate pulp in Western Canada but one of the greatest forest industry corporations in the world. Significant fact about the two pulp mills is that the bulk of their raw material is wood that would otherwise have been wasted.

H. R. MacMILLAN, Chairman of the Board, MacMillan & Bloedel, Ltd.

B. M. HOFFMEISTER (left) is President of MacMillan & Bloedel Ltd., C. CRISPIN (right) is Vice President.

The Harmac mill began production of unbleached sulfate pulp in June, 1950, and less than a year later the mill's bleach plant was started up, the first on the continent to use a Swedish chlorine dioxide process (Mo och Domsjo), although two Canadian International Paper Co. mills and the Natchez mill of International Paper Co. had previously introduced other chlorine dioxide processes. Harmac bleached sulfate pulp established a reputation for high brightness.

"The only thing wrong with Harmac," said Chairman MacMillan when the mill barely got under way, "is that it isn't big enough." Directors of MacMillan & Bloedel soon rectified that by authorizing expansion from 250 tons daily to 600 tons—all bleached sulfate pulp. Initiated in 1951 and now completed, it brought total investment at Harmac to some $40,000,000 and made it one of the largest producers of that grade in the world.

The company engaged Howard A. Simons and his staff of consulting engineers, for the expansion. Major contractor was Dominion Construction Co. Dominion Bridge Co. was responsible for steel erection of some tanks, digesters and recovery and boiler buildings, and among the other contractors were Vancouver Pipe & Engineering Works, Pacific Steel Erectors, Rust Engineering and Combustion Engineering. B. C. Bridge & Dredging Co. was the main contractor for construction of the original mill and also built all the concrete chip silos. Practically every phase of operation was enlarged.

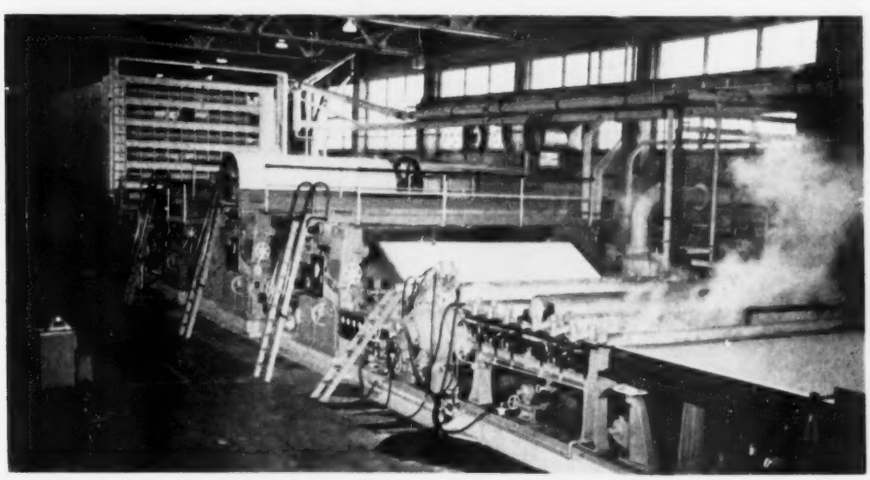
### *Pulp Mill Additions*

The mill added eight new 11 ft. 6 in. diameter, 54 ft. 11 in. high digesters (two Inconel lined A. O. Smith digesters spot welded by John Inglis Co., and six carbon steel digesters built by Dominion Bridge) to bring the total in the mill to twelve. Four of the new digesters, with heating systems, are housed in a separate building. The main digester building now has eight digesters, all of 4700 cubic feet capacity. The circulation system was supplied by Esco, Ltd. (Electric Steel Foundry) and is stainless steel throughout, as are new Yarnall-Waring motor-operated blow valves. Although the digester capacity has been increased 300 percent, production actually will be only doubled, the excess providing greater uniformity and higher quality. Controls are Mason-Neilan and Honeywell. Tile linings in screen room and digester building are of Chemtile, by Chemical Linings, Inc.

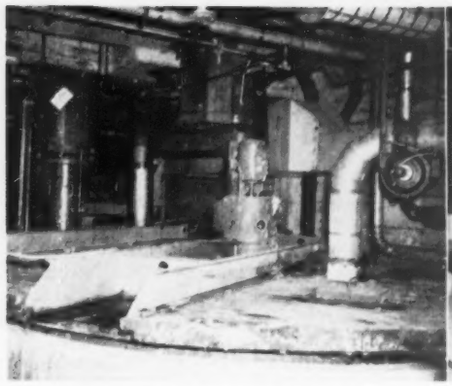
Another addition in this section of the plant is a second Dominion Bridge blow tank of 26 ft. diameter and 21 ft. 6 in. cylindrical center section, and bottom cone of 21 ft. 4 in. Three Rosenblad heat exchangers have been added to the original two heat exchangers of the digester heat recovery system, and a second condenser for gases from the new blow tank has been added.

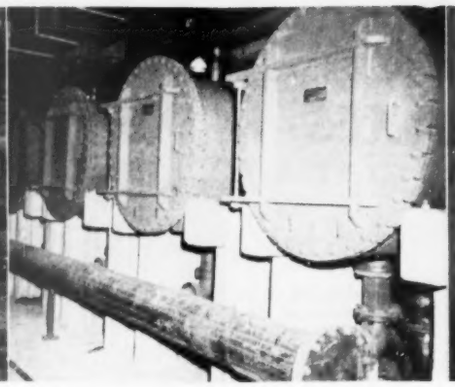
### *Brown Stock Washing*

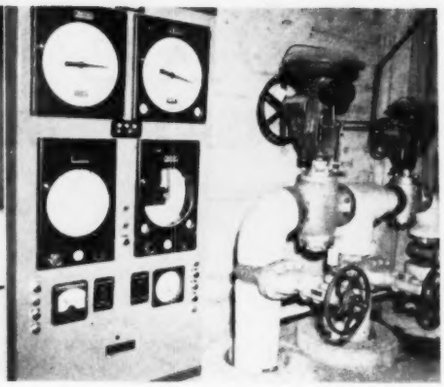
Brown stock washing was increased by adding a line of three 11½ ft. x 16 ft. Sherbrooke brown stock washers, preceded by four Jonsson knotters, with a second Gruendler Crusher & Pulverizer Co. knot crusher and knot storage tank.



NEW DOMINION ENGINEERING machine at Harmac is one of the major features of the expanded pulp mill. It uses a wire 178 in. wide and 80 in. long. Flakt dryer supplied by Paper Machinery Ltd. of Montreal, in background.







**KAMYR CHLORINATION TOWER (left), one of many important units installed in the new Harmac bleach plant. Kamyr is represented in Canada by Paper Machinery, Ltd., in the U.S. by Sandy Hill Iron & Brass Works.**

**ROSENBLAD HEAT EXCHANGERS (center) in the new bleach plant. A Rosenblad direct condensing recovery system recovers heat contained in digestor blow gases.**

**DIGESTER BUILDING installations (right) include Minneapolis-Honeywell panels (at left) and Mason-Neilan controllers of the valve system. Contractor on digesters was B. C. Bridge & Dredging Co.**

Instrumentation was by Minneapolis-Honeywell. Three separate filtrate seal tanks, a foam tank and two storage tanks were supplied by Dominion Bridge Co.

The new brown stock washers are larger both in capacity and physical size than the original units, for efficient recovery of black liquor and a well washed pulp. Circulation of the filtrate is conventional, with the recovered liquor going to the weak black liquor storage tanks. Three Kamyr-type high-density towers have been added to take the high-density stock from the washers.

Eight lines of Waterous flat screens were added to the existing twelve lines which formerly screened the brown stock and bleached stock (eight brown stock, four bleached stock) in the enlarged screen room. The original installation of 12 lines will now handle the brown stock, which is then thickened by five Sherbrooke deckers. The new set of eight lines will screen the bleached pulp followed by thickening by four Sherbrooke deckers. Two decker stock chests and white water chests have been added to the earlier installed four stock chests and two white water chests. Tile lining of chests was by Stebbins.

The stock piping ahead of the knotters has been so designed that stock from either No. 1 of No. 2 blow tank can be pumped to any of the seven knotters. In order to avoid upsetting the dilution system, it was necessary to inter-connect each pair of seal tanks. The two first-stage seal tanks are connected with a common 24 in. pipe at the base, which actually makes one large seal tank. The same applies to the second and third-stage seal tanks, as well as to the foam tanks.

### *Dominion Engineering Machine*

Ample provision had been made in the machine room for installation of a second machine although when the original plans were made it was probably not realized that the additional space would so soon be needed. The original Fourdrinier was by John Inglis with Flakt dryer. The new Fourdrinier machine is by Dominion Engineering, also with Flakt dryer supplied with Paper Machinery Ltd. of Montreal, as was the original.


LOCATION OF HARMAC PULP MILL

Stock from screen room is pumped to a 25 ton blending tank outside the machine room, a duplicate of the original machine blending tank. The blending tank is 38 ft. diameter and 30 ft. tall, and the bottom is a specially designed tile-lined concrete cone. Walls are of Douglas fir wood stave. The agitator is of two-propeller type with the lower one centered in a diffuser ring set on the concrete bottom. The agitator is driven from a double reduction gear mounted on two trusses over the tank, with the trusses carrying both the weight and the thrust of the agitator. A new crane for both machines was installed.

The press section of the new machine includes three sets of 36 in. diameter rubber covered bottom press rolls and 30 in. diameter top rolls. Pneumatic cylinders are provided for top roll pressure or lifting. The sheet passes through two press sections, then over two 50 in. diameter pre-dryers to the third press.

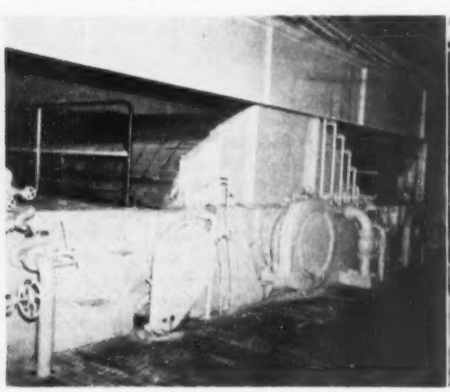
All doctors are Lodding type, top press roll doctors being oscillated. Fourdrinier and press section are balanced for a surface speed of 250 fpm.

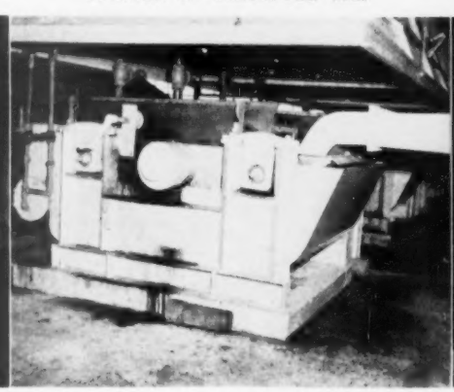
The sheet passes from the third press

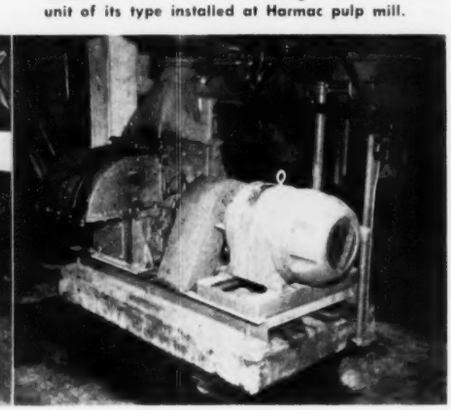
**BROWN STOCK WASHING (left) in Harmac mill was expanded by addition of a line of three 11½x16 ft. Sherbrooke units.**

**JONSSON KNOTTER SCREENS (center), built by Bird Machine Co. and Canadian Ingersoll Rand, precede the Sherbrooke brown stock washers in Harmac digestor building.**

**GRUENDLER KNOT CRUSHER (right) is the second unit of its type installed at Harmac pulp mill.**







over a Toledo Scale automatic weight controller and into a conventional Flakt dryer by Svenska Flaktfabriken. It is of the horizontal type, 15 decks high compared with the 13 decks in the No. 1 machine dryer. Six fans on either side of the dryer provide the forced air circulation, served by Bingham pumps.

The new Flakt ventilation system for the machine room as well as the Flakt heat recovery system for both machines were supplied by Paper Machinery, Ltd.

The dry sheet leaving the dryer is passed to a heavy duty Lamb-Grays Harbor automatic layboy and cutter, and the stacked sheets are conveyed to a second 800-ton Baldwin press.

The new machine is driven by a Harland sectional drive with individually controlled motors for each section of the machine interlocked by the Harland system of differential control.

### *Evaporation and Burning*

Additional black liquor evaporating capacity is provided by a Swenson six-body sextuple effect evaporator of long-tube vertical type. Vapor from the sixth effect body together with the non-condensable gasses pass into the surface condenser, which has been provided with two-stage jet vacuum pumps with inter-cooler. The new evaporator is of greater capacity than the original.

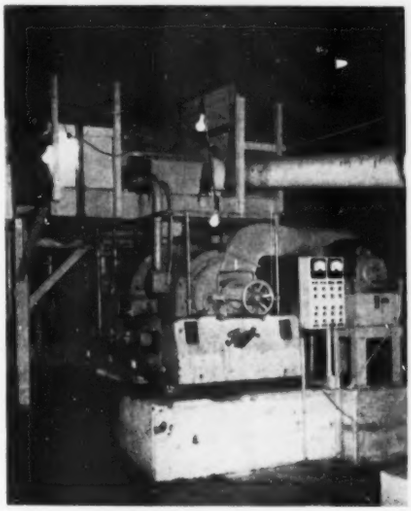
The new Combustion Engineering recovery furnace is of spray type with design pressure of 675 psi. It has a heating surface of 37,930 sq. ft. and is designed to handle 1,020,000 lbs. of dry solids per 24 hours, with a steam capacity of 175,000 lbs. per hour.

Larger than the No. 1 recovery furnace installed in the original mill, there are other differences between the two. The new unit, for instance, has a water cooled bottom and has been supplied with a Combustion Engineering Elesco superheater. The chemical ash system is continuous, utilizing strong black liquor instead of the circulating weak black liquor, the method used in the original unit. A Diamond air control system is used, with Diamond soot blower. The new deaerating heater is of Cochrane atomizing type.

Additional process steam to the mill is provided by a new Combustion Engineering VU hog fuel boiler which has a spreader stoker type of firing rather than the dutch oven type used in the first two installations. This new boiler produces 120,000 lbs. of steam per hour.

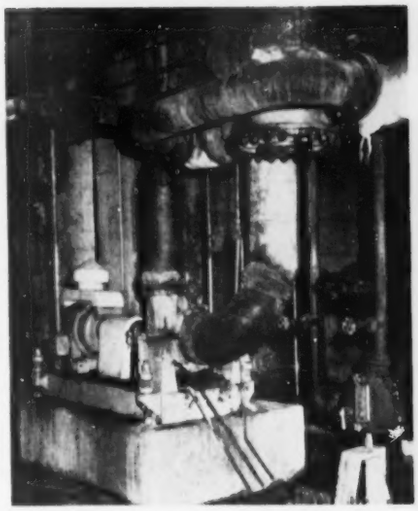
Feedwater is conditioned by the Alchem system and is pumped by two Bingham pumps, one turbine driven and the other motor driven. Instruments are by Bailey Meter.

Adjacent to the first precipitator a second electrostatic unit has been built. The recovery furnace gases from both precipitators pass into the original stack, and a second stack has been built to carry off the gases from the three hog fuel burners. Both stacks were built by Rust Engineering Co. The new one is of brick lined reinforced concrete construction 200 feet high with internal diameter of 12 feet.



**BAUER REFINER** used for refining screen room tailings at Harmac was installed shortly before the major expansion program was initiated. It is located in the screen room.

The boiler is of the three-drum vertical bent tube type having an upper front drum of 30 in. diameter, an upper rear drum of 60 inches and a lower drum of 54 in. The economizer section consists of a bank of 2½ in. finned tubes. The feedwater enters the bottom header and circulates up through the tubes into the top header. From the top header the water passes through circulators to the steam drum. The boiler is designed for maximum parallel flow of gases over the tubes, this eliminating to a great extent the ash accumulation and boiler slagging and plugging. The arrangement of the boiler tanks and hoppers gives an automatic handling system for ash removed from the tubes. A Murray cascade evaporator is used. Fiberglas insulation is used.



**CIRCULATING SYSTEM AND HEATERS** for the Harmac digestors were provided by Esco Ltd. (Electric Steel Foundry).

A second Dorr continuous causticizing system of a larger capacity than the first has been installed. This consists of a lime slaker, three causticizers, white liquor and green liquor clarifiers, a two-stage mud washer, dregs washer, lime and storage tank and Oliver mud filter. A 250 ft. Traylor lime kiln was added. Additional liquor clarifying capacity was installed to insure clean white liquor for the digesters so that top quality clean pulp could be continuously produced independent of the liquor system variables.

Fuller Co. supplied a salt cake unloading system.

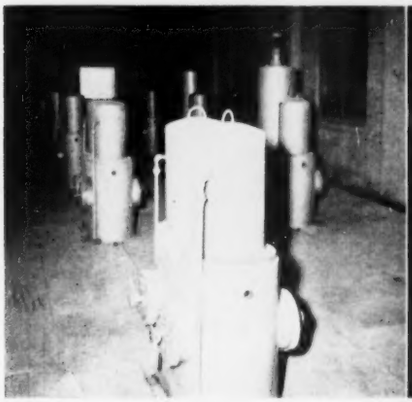
### *New Bleach Plant Built*

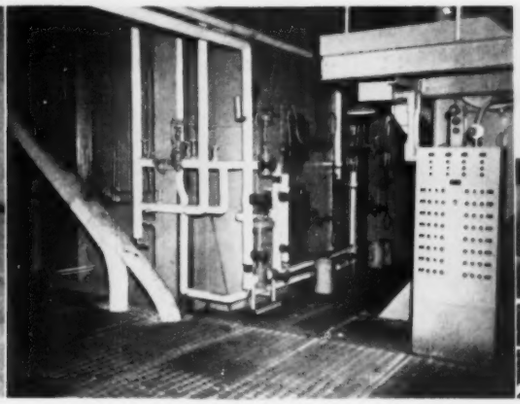
Interesting feature of the new development is a new bleach plant, which duplicates the first eight-stage plant, and has

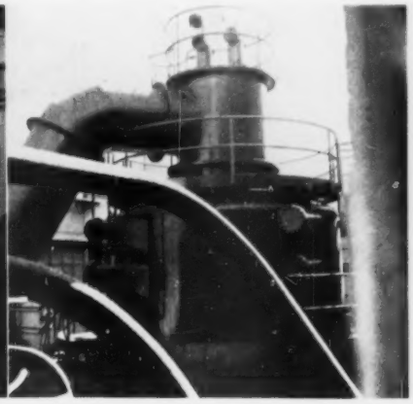
**NEWLY INSTALLED PRECIPITATOR** equipment (left) at Harmac. A Precipitation Co. multiclone type dust collector handles 60,600 cu. ft. of flue gas at temperature of 465°F.

**BOILER SPREADER AND STOKER** (center) control equipment serving Combustion Engineering installations in the Harmac recovery building.

**DOMINION BRIDGE CO.** built this blow tank (right) servicing the digestor building of the Harmac mill.







**KEY MEN OF HARMAC PULP Division of MacMillan & Bloedel include (l to r): C. W. E. LOCKE, General Manager; L. G. HARRIS, Manager; D. H. BAKER, Ass't to Manager; E. WALLOE, Superintendent; J. S. ROGERS, Plant Engineer.**

a capacity of 385 tons of brown stock. Instrumentation is by Minneapolis Honeywell and motors and controls by General Electric. It is featured by Paper Machinery Ltd.—Kamyr bleachpaint installations.

The towers have a larger capacity than those in the first plant. Sherbrooke Machineries supplied the eight 11 ft. 6 in. x 14 ft. washers, three of which are rubber-lined. As in the original plant, caustic soda, chlorine, chlorine dioxide and calcium hypochlorite are the bleaching chemicals used. The bleached stock is discharged into two high-density storage tanks of Kamyr design. The bleached pulp is re-screened, as previously described. Stock passes over deckers to stock chests and a second pulp machine blending tank. All stock and water lines from the unbleached high-density towers to the pulp machine are of wood stave or stainless steel.

Canadian Stebbins Engineering & Mfg. Co. furnished all the tile and brick linings for the bleach reaction towers. The acid-proof brick linings for the chlorine dioxide towers were especially designed by Stebbins and represent one of the first installations of its kind in the industry. Also, the eight vats for the Sherbrooke washers were of Semtile construction and special acid-proof cement was used on four of the vats, especially the washers after the chlorine dioxide reactors.

Type 317 stainless steel was extensively used in the bleach plant.

### *Chip Supply*

One of the first steps in expansion was the addition of three chip storage silos, bringing the total to ten, all built by B.C. Bridge & Dredging Co., main contractor for the initial mill. There are now ten concrete silos in all, capable of holding 3,750 units of chips. At the base of each silo Link-Belt chip feeders deliver to digesters by belt conveyor.

Most chips are delivered by scow from the company's saw mills and wood plants, direct to a wharf where a Colby gantry crane unloads them onto a belt.

In order to meet the requirements of the new mill it was calculated an increase in production of chips amounting to about 700 units per day and of hog fuel up to 200 units per day would be necessary. Some are delivered by 10-unit trailers from a Cowichan Lake sawmill 60 miles away and blown by Conveyair blower into the silos. Some chips would also originate at the Harmac woodroom, which so far, however, has been used primarily as a standby operation.

The original bucket operated by the gantry crane had a capacity of half a unit of chips per bite. To take care of the increased requirements it was necessary to install a bucket that would increase the pay load by one third, but the total weight would not exceed that of the original bucket and load. By making as much use as possible of aluminum, Owen Bucket Co. provided a bucket now unloading chips from scows at the rate of 2700 lbs. per grab and also unloading hog fuel.

The chips are fed by belt conveyor to a surge bin in the new chip screen building. Four more Rotex chip screens are here, and oversize chips go to the 36 in. ten-knife Sumner rechipper, thence by overhead discharge to the first screen for rescreening. Accepted chips drop into a 30 in. 45 degree Link-Belt conveyor which carries them to the top of storage silos.

While there has been duplication of equipment in connection with the handling of chips, the new arrangement gives more scope for flexibility in operation. By having two entirely separate chip handling systems, it is possible to carry on woodroom and scow unloading of two different species of wood, since it is undesirable to mix species.

It is expected from now on a substantial portion of chips will be supplied from whole logs unsuitable for lumber manufacture and these will be barked and chipped in the woodroom. The profile of the rolls in the hydraulic barker infeed had to be changed so two or more logs could be passed through the barker together.

A new Bauer Bros. chip refiner has been installed.

Another new project at Harmac was construction of a deepsea wharf, built to berth ocean-going cargo ships.

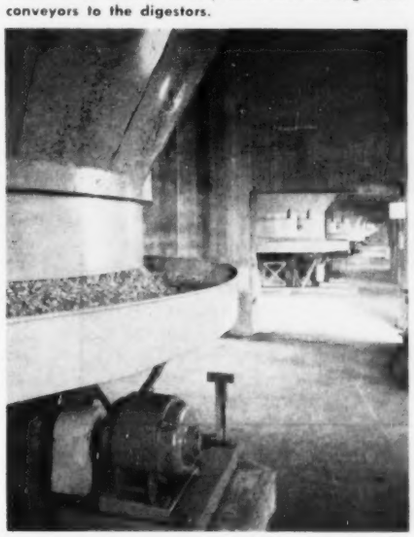
The original mill obtained its water supply from a system of Ranney wells at Cassidy, five miles distant, the water being pumped through a 40 in. wood stave pipe to the mill. A reservoir in the river watershed has been located at Fourth Nanaimo Lake, 30 miles from the mill, on Sadie Creek, a tributary of the Nanaimo River. Three Byron Jackson deep well two-stage pumps with 150 hp 550 volt motors were installed, and are capable of delivering 4,000 U.S. gals. per min. at 125 ft. head. A fourth unit capable of delivering 6,000 U.S. g.p.m. is to be installed.

The 13.8 kv primary power distribution system is supplied from two 16,000 kva transformers which step down the 138 kv supply from the British Columbia Power Commission hydro-electric plant at Campbell River. A new 138 kv transmission line has been built to replace the former 60 kv line which supplied the original mill. The average power load has been increased from 770 kw to 14-15,000 kw. A 1250 General Electric turbo generator is being installed and will be used as an auxiliary power supply during shutdowns, etc. Expansion in the electrical system represents a 90 percent increase in installed capacity.

Since the inception of the Harmac mill, sales of pulp have been in the hands of Price & Pierce, Ltd., with offices in London, New York and Montreal. This company, with its world-wide connections, has been Harmac's exclusive selling agents.

Harmac pulp has found a multiplicity of end uses. The list of products manufactured with Harmac pulp as a base is a long one, ranging through an extensive assortment of tissues, glassine, book and printing papers, fine papers, coarse papers and paperboard.

**IN CHIP STORAGE BUILDING at Harmac pulp mill, 17 ft. diameter Link-Belt rotary plate chip feeders at the base of the 10 chip silos feed through belt conveyors to the digestors.**



# NEW INDUSTRY SET-UP IN WASHINGTON

Leonard Pasek, Kimberly-Clark's Washington, D.C., representative, has been appointed to the new top position representing pulp and paper and allied industries in the new industry-government liaison organization replacing the National Production Authority.

He is assistant administrator of the new Business Services Administration, replacing NPA, and serving under the Secretary of Commerce.

As such, he is in charge of the industry division of Pulp, Paper and Paperboard, Forest Products and Lumber, Printing and Publishing, Containers and Packaging, Rubber and Chemicals. He has worked with a group of top NPA and Commerce officials in planning the new organization.

Secretary of Commerce Weeks plans to have the new agency operated by men on loan from industry and business on a rotating basis. Mr. Pasek has been serving as assistant administrator of NPA after he had been director of the Pulp, Paper and Paperboard division and director of the Forest Products division.

## Dan Chapman Named Cheney Bigelow Rep.

Dan Chapman, 1704 North Superior St., Appleton, Wis., has been appointed Midwestern representative for Cheney Bigelow Wire Works, Springfield, Mass. Mr. Chapman is a product of Southern California schools and has had considerable experience in engineering.

He is also Midwest representative for Morden Machines, Fulton Iron Works, and Evans Rotabelt.

*Man uses paper more than any other commodity except water. You are in an indispensable industry!*

# BULLETIN BOARD TECHNIQUES

## HOW NORTHERN PAPER MILLS USES THIS COMMUNICATION

**By Robert J. Turek**
**Northern Paper Mills Division of Marathon Corp., Green Bay, Wis.**

*Northern Paper Mills, Green Bay, Wis., recently merged with the Marathon Corp., has won attention and commendation from other mills in Wisconsin for the manner in which it has developed the use of bulletin boards for better employee relations. Here is the story, written especially for PULP & PAPER, of how the boards are used. Mr. Turek, the author, advertising manager of the company, has been responsible for their development.*


**THE BULLETIN BOARD at Northern Paper Mills, Green Bay, Wis. The way in which bulletin boards are used at this mill for company communication has attracted interest and praise from other individuals and companies in the Wisconsin industry.**

We have five bulletin boards strategically located (near rest rooms and heavy traffic points) in the mill. One is in a main lobby that is subjected to all traffic, three others are each in one of our three major departments (sulfite mill, paper mill, converting department) and the other is in our main office. A sixth bulletin board will soon be added in our napkin department

**R. J. TUREK, Advertising Manager, Northern Paper Mills Division of Marathon Corp., Green Bay, Wis.**

in order to cover the individuals working on the third floor of our mill.

Our boards are designed to entertain, to inform and more specifically to bind mill individuals together as a group. We have slightly more than 1100 people in our employ at the present time and it is difficult for any one man to know everyone else. One of the purposes of our boards is to give personal recognition and personality descriptions so that all of us can know as many of our fellow workers as possible. Let me list some of the features that are regularly contained on our boards.

1. A CLASSIFIED AD SECTION—Believe it or not, this works and simply because we constantly keep it up to date. Every listing is retained on the board for one week and then automatically renewed. If the item hasn't been sold, rented or purchased by that time, the individual has to again write his "classified ad" and drop it in a slotted box on the board for that purpose. Keeping items current is a key to success and as a result this section is always alive, useful and it actually works.

2. THE FOLKS AT NORTHERN SERIES—Up to this point this series of large photos and personality descriptions has dealt with two segments of our employees: 1. The supervisors and 2. Those employees who have been at Northern the longest. We display a large 8x10 photo of each individual and at least three or four paragraphs on that man describing his personal history and also his work history at Northern Paper Mills and any other interesting bits of information about him. It has enabled us to get acquainted with our fellow workers and it's one of the highlights of every board display. This display will start at the main lobby, stay there for half a week and rotate on for an equal period of time to every board in the mill. I think that we'll keep this thing going until we have covered everyone in the mill.

3. INTRODUCING NEW EMPLOYEES—We haven't done this too well up to now because it takes time to develop any photos that we may take of them. As a result we are now about to purchase one of those Polaroid cameras so that one minute after a man enters our employ his photograph can be displayed on our main bulletin board and also on the bulletin board of the department he's joining. Accompanying it, of course, will be a personal description and history.

4. *THE* CARTOON—We have an artist in the plant—one of our employees who is exceptionally good at cartoon work. He does large full color drawings (about 2'x2') of people and situations. The choice of subject matter is usually left pretty much up to his discretion and he's done a wonderful job of entertaining but also of forcefully presenting safety or good housekeeping lessons or some such important point. As with most of our items, this cartoon starts on the main board and then rotates through the other boards and I'm sure has awfully close to 100% readership.

5. "FROM THE PRESS GAZETTE"—Here we constantly portray any clippings or articles that appear in our local newspaper about Northern or any of our people. We are currently running a series of newspaper ads explaining the Northern operation to folks in the community and these, of course, are also clipped and posted on our boards.

6. SPORT NEWS—We keep an up-to-date record of the bowling standings and of the individual averages of all our league bowlers in this section of the bulletin board. During the summer months we do the same thing with baseball. In addition to team and individual standings we also have special sheets on which we list members of "200 Club" and "600 Club." These, of course, as the names imply are individuals who have bowled over 200 for a single game or 600 for a three game series in our Northern Bowling League.

7. BULLETINS AND NOTICES—We have specially imprinted paper in certain colors headed with the large words "Notice" or "Bulletin." Whenever we have something important to say or any important announcement to make we utilize this special paper and believe me, *everybody* reads it.

8. BIRTHDAYS OF THE MONTH—We chronologically list in a small section of the board every birthday to be celebrated by any Northern employee during the month. This listing makes for a lot of good feeling.

9. THE NURSES' CORNER—Here we list all individuals who are ill or injured and are spending time at their own homes or in one of the local hospitals. Our nurses have fresh and up-to-date information on this every day and it has done away with the common situation where a

man could be laid up for a full week and return to work without many of his fellow employees even knowing that he was ill.

10. SPECIAL INFORMATIVE SERIES—We have just completed a long series of special photos and descriptive paragraphs on the paper making process. It was well received. Also in this category are other planned series describing, for example, company advertising, etc. A lot of this material could also be covered in our employee magazine but the way these boards are working for us we know they get just as good readership if they appear on the bulletin boards.

11. SPECIAL CONTESTS—With our boards as the only medium for passing on information, we have conducted successful contests, first of all to name our employee publication—a fishing contest and finally a photo contest which has been phenomenally successful. We have received literally hundreds of photographs taken by employees and of course each and every one that we received has been posted on the boards. It gives the man a good chance to show his fellow workers where he has been and what he has done and believe me many of the people at Northern are taking advantage of the opportunity.

I could go on and on with many miscellaneous items that the boards carry such as work schedules, impertinent bits of day to day working data of importance to all of us. But I think that by now, however, the reader has a good idea of what we attempt to do with our bulletin boards here at Northern. I might add, we think that the simple secret of success is to keep the boards fresh and as interesting as possible. We faithfully change elements on each board twice each week. Some items of importance remain a full week on each board, some items appear for a week or even for a half a week on all boards simultaneously and others begin on board No. 1 and rotate through all the boards in the plant. It all depends on the item. Quite simply, all we try to do is fill a gap in our day to day operation here and I think that thus far we have succeeded. Believe me, once you get involved in a thing like this the problem is not "what to post" but "what *not* to post."

## Mohawk Improvements

Mohawk Paper Mills, Inc., Cohoes, N.Y., is in a continuing program of plant improvement to increase production and quality of its lines of fine printing papers according to George E. O'Connor, president.

Latest improvements include a new size tub installed for surface sizing on the paper machine at the Cohoes plant of Mohawk, and screening equipment has been rebuilt in stainless steel, and beaters are being rebuilt and lined with stainless steel as well. At Mohawk's Waterford, N.Y., mill, all beaters have been built in tile and stainless steel and stainless steel screens have been installed. At both mills, Ross installations have been completed so all incoming air can be filtered and preheated.

# HOW BROWN COMPANY PULPS HELP MAKE YOUR ROOMS Come Alive!

A few rolls of wallpaper can transform your rooms into places of warmth . . . of beauty . . . of individuality. That's the magic of wallpaper—and of wood pulp.

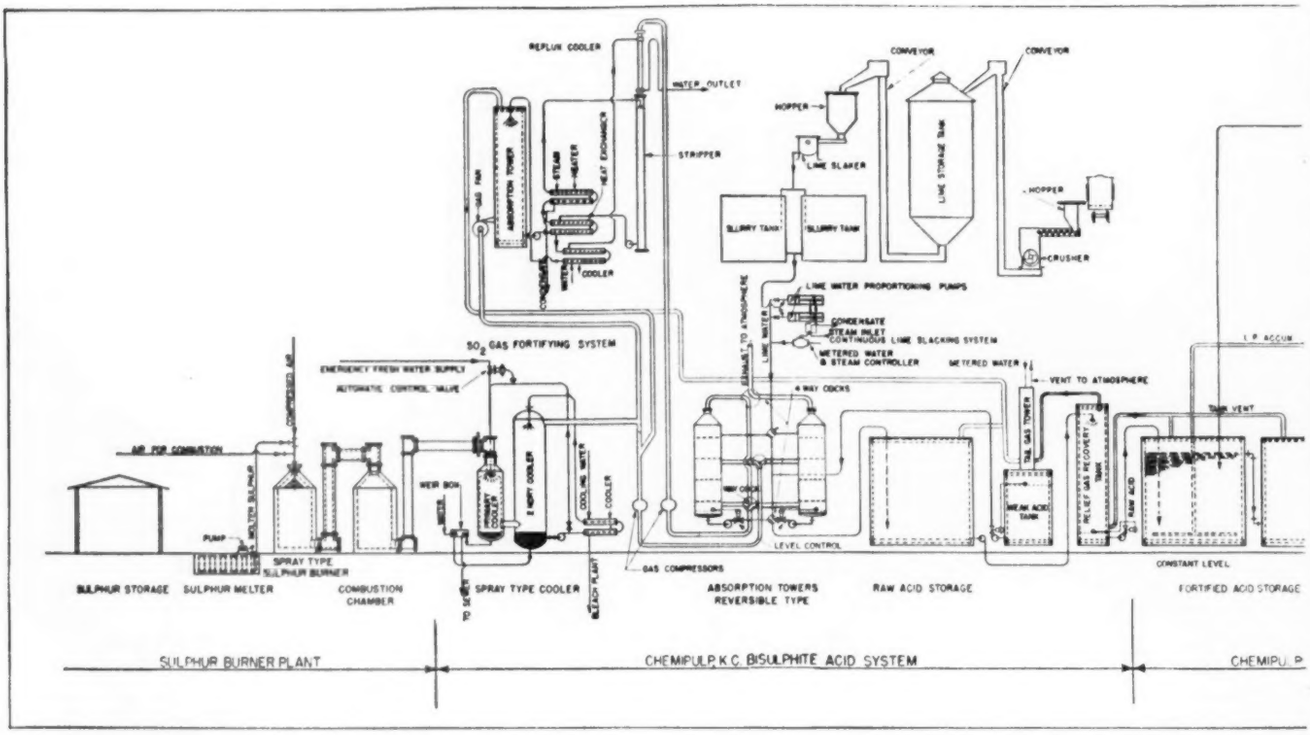
Some of the finest wallpapers in American homes everywhere are made from Brown Company pulps—pulps carefully engineered to provide many special qualities—color stability to prevent discoloration, good aging characteristics for permanent wear, durability against drying and cracking, etc.

Coming up with the *right* pulps for special papers like wallpaper is a job our Technical Service Division has been doing for more than half a century. If you have a paper problem of any kind, perhaps we can help you, too. Write to Dept. PC-11 in our Boston office.

BROWN COMPANY, Berlin, New Hampshire
CORPORATION, La Tuque, Quebec

*General Sales Offices:* 150 Causeway Street, Boston 14, Mass.
Dominion Square Bldg., Montreal, Quebec

SOLKA & CELLATE PULPS • SOLKA-FLOC • NIBROC PAPERS • NIBROC TOWELS • NIBROC KOWTOWELS
NIBROC TOILET TISSUE • BERMICO SEWER PIPE, CONDUIT AND CORES • ONCO INSOLES • CHEMICALS

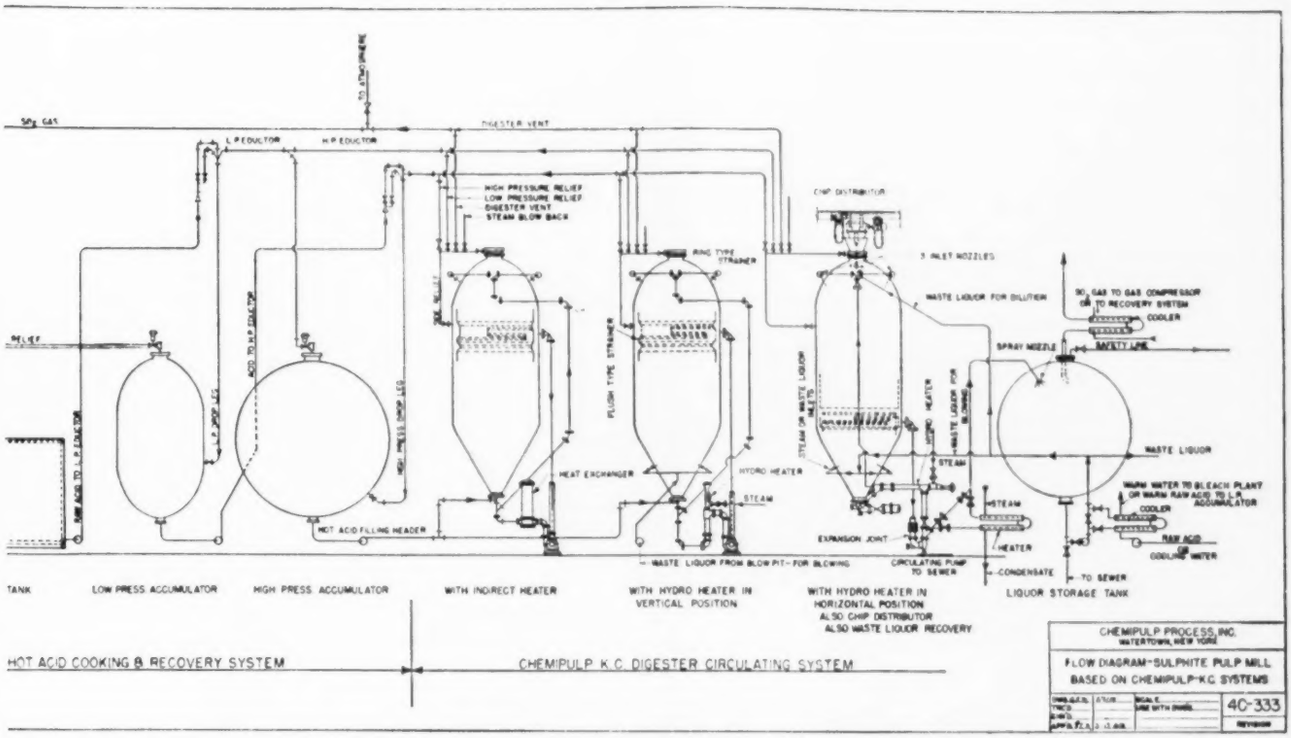



**CHEMIPULP—K. C.**

# *Independent* RECOVERY SYSTEM

¶ The independent recovery system consists of the relief gas recovery tower shown to the left of the constant level tank and the tail gas tower with its weak acid tank. Any unabsorbed gases from the constant level tank or the acid storage tank are brought to the bottom of the relief gas recovery tower or tank. This tower is filled normally with 4x4 cross partition ceramic rings, the bottom support being approximately 5' off the bottom of the recovery tower and raw acid from the strong absorption tower is pumped to Spraco nozzle located in the top of the relief gas recovery tower. Any unabsorbed gas from the recovery tower goes to the tail gas tower which is filled with Raschig rings and supplied with water at the top. This water trickling down over the Raschig rings absorbs any $SO_2$ gas that may come from the recovery tower and the resultant inert gases are vented to the atmosphere from the top of the tail gas tower, the liquor which contains a small amount of free $SO_2$ dropping down to the weak acid averaging tank from whence it is pumped to the absorption towers as part of the make-up water, the lime water making up the balance required for total acid requirements. You will note that a gas compressor is used next to the absorption towers. Therefore, all of the equipment to the left or shown above the absorption towers is under a vacuum, whereas the absorption towers, and we prefer milk of lime absorption towers, may be operated under any desired pressure. You will note the gas at the strength that it comes from the burners, that is, 16% to 19.5%, enters the strong tower. The unabsorbed gas in the first or strong absorption tower can be returned to the second tower either as the bottom or between the second and third trays and the resulting $CO_2$ and inert gases are vented from the top of the weak tower, plug cocks being used for control of the flow of gases. Any base such as Calcium, Soda or Ammonium can be used in this Acid System, or any combination of these can be used.

¶ This Independent Recovery System at Deferiet is giving much better recovery and strong acid but its great advantage is that there is never any gas that goes back to either the suction or discharge side of




# *in the* SULPHITE PROCESS

the gas fan, resulting in a constant sulphur burning operation. Where the relief gases go back to the acid making system as is customary in most mills, during times of heavy relief, the sulphur burning operations are slowed up but with the Independent Recovery System this does not happen and the sulphur burning as mentioned above is uniform at all times.

**This article is the seventh of a series being published by Chemipulp Process Inc. in PULP & PAPER magazine in the interest of generally improving the sulphite process. Correspondence regarding or discussing the articles will be welcomed.**

**COPIES OF REVISED EDITION OF "CHEMIPULP SULPHITE MILL OPERATION," THE HANDBOOK OF PRACTICAL OPERATION PROBLEMS, ARE AVAILABLE FREE TO ALL USERS OF CHEMIPULP PROCESS EQUIPMENT.**

## Chemipulp Process, Inc.

**CHEMIPULP PROCESS LTD.**
**CRESCENT BUILDING**
**MONTREAL, QUE.**

**HEAD OFFICE**
**500 WOOLWORTH BUILDING**
**WATERTOWN, N.Y.**

**A. H. LUNDBERG**
**308 ORPHEUM BUILDING**
**SEATTLE, WASH.**

# RECRUITING HOME TOWN EMPLOYES

A DIVISION MANAGER in one of the Middle West's most progressive pulp and paper mills is the author of the following "talk" which he made before a high school senior class in the mill community.

This is the kind of "talk" that might well be used advantageously by your own mill—in your mill town—if you are an industry supervisor with a similar problem.

The problem is the perennial one of attracting home town young men and women into mill employment. "We have a hard time getting our own youngsters to work in the mill—other fields always look greener," a mill manager recently told PULP & PAPER.

This talk is notable because of the simple, direct statement of the essential information which high school student wants to know—or should know.

As a result of his talk, this mill executive was bombarded with questions for a full half hour by the students.

Any mill management might well use this same talk—simply inserting its own company name and making a few minor changes of details:

### *Mill Executive's address to a high school senior class*

We are not here to talk to you today with the idea in mind that . . . Paper Co. is trying to recruit your services. We are merely here to tell you some of the basic facts about the pulp and paper industry, with particular emphasis on our paper company.

First, let me give you a little background of the pulp and paper industry in general. The first paper mill was built in the United States in 1690. The pulp, paper, and paperboard industry is one of our basic industries. It is a fast growing industry, particularly in the Southern and Western parts of the United States.

It wasn't many years ago when the average pulp and paperboard consumption per capita per year was around 200 lbs. Today, each individual in the United States uses approximately 400 lbs. of paper and paperboard per year.

Getting down specifically to the part of the paper industry that you are interested in, namely, the .... Paper Co. I would like to tell you in general terms a little about us. When I get through, I will answer any questions you may have, if I can.

1. Our general office, which includes our general sales office, is located in Milltown. We have sales offices in other big cities. Our mills are in.....

At Milltown we employ 120 girls and 1320 men on an hourly basis. The production of our paper machines here at Milltown, approaches—tons per day.

2. Our normal working hours, in all but two departments, is forty hours per week. In our beater room, and also the machine room, the employes normally work six hour shifts—six days per week—for a total of 36 hours per week. There are, however, many instances when certain departments, due to an excessive work load, work longer hours; which, of course, is compensated in the form of overtime pay.

3. The pulp and paper industry is not a seasonal one. We have had a few very short periods in the last 15 years when we have not worked a full work week, due to a weak paper market, or an adjustment period in the industry. However, these few instances have not followed any seasonal pattern.

4. The trend of employment in the . . . Paper Co. has been progressively upward over the years. The company has increased its production per day, to a point where it is double what it was in the early 1930's. With this increase in production, new buildings for additional needed raw materials, finishing space, increased pulp and bleaching capacity were necessary. All this, of course, necessitated additional employment.

5. In order to work on an hourly basis, a high school education is not mandatory, but it is preferred.

6. Personal qualifications: An employe must be in good physical and mental health. Also, one must have the proper attitude. By proper attitude, I mean an attitude of cooperation with your fellow workers and the management.

7. Wages: Our base rate, which is our starting rate, for all male employees is ....per hour. It is the company's privilege to start all employes six cents below the base rate for the first thirty days, which is a trial period. Our female hourly base rate is . . . per hour.

The above described rates, as I said, are base rates. There are naturally higher rates in every department. Some departments have higher rates than others. The way you advance to these higher rated jobs is covered under our labor agreement as follows: "The oldest employes in the point of service, personal reliability, efficiency and ability considered, are the ones given preference."

It might be pointed out that 30 percent of the company's hourly paid employes earn $4,000 per year or more.

At this point, I would like to tell you how our mill here at Milltown is set up by departments.

1. Pulp manufacturing department—woodyard, wood room, kraft mill, sulfite mill, bleach plant.

2. Paper manufacturing department—beater room, machine room.

3. Mechanical service department—steam plant, electrical plant, machine shop, tin shop, foundry, pipe fitters, cement crew, painting crew, millwrights, general labor crew, etc.

4. Finishing and shipping departments—finishing room, shipping department, box shop, stock room.

5. Technical service department—all salaried employes.

6. Industrial service department—all salaried employes.

As long as we are on the subject of wages, I would like to give you the annual incomes of a few jobs in each department. Please bear in mind that these figures are on a straight time basis, and no night shift premiums are involved. (Here several annual incomes are mentioned for various positions.)

The only place we use female help on an hourly basis is in the finishing room. Thus, if you girls are employed, it will be in the finishing room. It might be pointed out that girls must leave the employment of the company once they get married.

When men are hired, they are hired for the department that needs them at the time. However, once you are hired for a certain department, it does not necessarily mean you will always be in that department, unless, of course, you prefer to be there. When there is an opening in another department for a base rated job, instead of hiring someone from the outside for the job, the opportunity is normally given the employes on the pay roll to transfer if they so wish.

Now I will gladly answer any questions you may have.

### *LARRY AND HARRY—TOUR PACIFIC COAST*

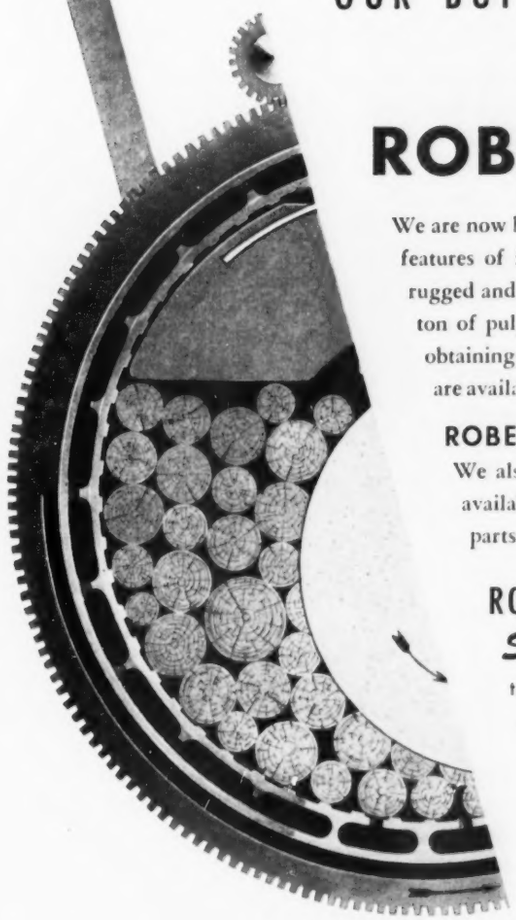
**LARRY M. WOODSIDE (left), who tours the continent as Technical Service Representative for Albany Felt Co., Albany, N. Y., recently made an extended visit to Pacific Coast mills. He was accompanied in his travels by the veteran Pacific Coast representative for Albany, HARRY STILWELL (right), of Union, Wash. Here they are shown calling on JOHN DENHOLME, Superintendent at Pacific Mills Ltd., Ocean Falls, B. C. In British Columbia portion of their trip, Mr. Woodside and Mr. Stilwell, of course, represented the recently expanded operations of Albany Felt Co. of Canada.**

# ANNOUNCING

## OUR BUILDING AND INSTALLING

## *The Improved*

## ROBERTS GRINDER



We are now building the Roberts Grinder, incorporating many new features of improvement that means greater operating efficiency, rugged and quality construction, greater production, less H. P. per ton of pulp and higher brightness. New control features means obtaining practically any type of pulp desired. Roberts Grinders are available in three sizes to take 2-foot, 4-foot, and 5-foot wood.

**ROBERTS GRINDERS BUILT PREVIOUSLY —** We also wish to announce we have blueprints and patterns available to service your requirements on maintenance and parts of any previous grinders built.

**ROBERTS GRINDER *Advantages and Savings* FOR YOUR MILL...** Greater production — up to 50 tons a day per grinder • Replaces 3 to 4 pocket grinders • Saves up to 50 percent floor space • Greater grinding area permits more pulp per unit • Less waste • All-enclosed operation eliminates steam and vapor • Fits existing buildings with normal headroom • More uniform, higher quality pulp • Higher brightness • Less H. P. per ton.

Your inquiries are invited for a survey application of the IMPROVED Roberts Grinders to your mill requirements.

1853 100TH ANNIVERSARY 1953

*designing and building paper making machinery*

**BAGLEY & SEWALL**

WATERTOWN • NEW YORK

*Foreign Representative* • **CASTLE AND OVERTON, INC., 630 Fifth Ave., New York 20, N. Y.**

*Finland Representative* • **AKTIEBOLAGET EKSTROMS MASKINAFFAR, Helsingfors, Finland**

# Personals

### NORTHEAST NOTES

*GRANT A. SHARPE* has been appointed sales representative of General Dyestuff Corp. in upper New York State with headquarters in Syracuse. He has been with GDC since 1937, and transfers to his new area from the New York-New Jersey territory. He replaces *GEORGE B. MARTIN* in the Northeast.

*STEPHEN B. STAFFORD*, 72, secretary of Rice Barton Corp., Worcester, Mass., died Sept. 8 in Worcester. Mr. Stafford began his career with Rice Barton in 1897, serving in most departments. Of two sons who survive, one, Donald B. Stafford, is a sales engineer for Rice Barton.

*DAVID L. LUKE III* has been elected a vice president of West Virginia Pulp & Paper Co., New York City. Mr. Luke is a graduate of Yale, and spent some time with Arthur Anderson & Co. and American Research and Development Corp. before joining West Virginia. Since Feb. 1952 he has been responsible for coordinating company research and liaison with subsidiaries.

*J. W. MOORE* has been named assistant to the general sales manager for International Paper Co. He has been with IP since 1928, was in Washington with WPB in World War II and again with NPA during the Korean War.

*E. R. PERRY* has been elected president of National Vulcanized Fibre Co., Wilmington, Del. Mr. Perry has been with National less than a year, and was formerly associated with Westinghouse Corp. He replaces *J. W. MARSHALL* who passed away this summer.

*JULIUS FINCKEN* has been named plant manager for Paper Products Manufacturing Co., Swarthmore, Pa. He was formerly vice president and factory manager for A.P.W. Products Co., Albany, N.Y.

*EVERETT P. INGALLS, JR.*, being transferred to S. D. Warren's new paper mill (ex-Central Paper) at Muskegon, Mich., as assistant production manager, was presented with the Bolton essay contest top prize by *L. R. MITCHELL*, of John W. Bolton & Sons, at the Superintendents meeting at Poland Springs in September. Also *JOHN E. WILBER*, from S. D. Warren and now with Container Corp. in Chicago, was awarded the Northeast division prize. Young Mr. Ingalls' picture and portions of his winning essay were printed on page 108, Oct. issue of PULP & PAPER.

*HARVEY H. WILSON*, Ryegate Paper, was elected new chairman of Northeastern Supts. Division. *RUDOLPH GREEP*, of S. D. Warren, *JAMES SNYDER* of St. Regis at Bucksport, and *H. P. WALDENMEYER* of Oxford, were elected first, second and third vice chairmen.

*GEORGE A. DAVIS* has been appointed New England sales rep. for The Carpenter Steel Co. Alloy Tube Division, Union, N.J. He is a graduate of Rice Institute.

*CHARLES GRONDONA* has resigned as vice president of Hudson Pulp & Paper and will make an announcement of future plans after completing his work on supervising building of the new American-Israeli Paper Mill in Israel.

## Appoints Perkins-Goodwin

Perkins-Goodwin Co. has been appointed exclusive sales agents for all products of Valentine Pulp and Paper Co. mill now under construction near New Orleans, La., according to W. J. Amoss, president of Valentine. Perkins-Goodwin has headquarters at 30 Rockefeller Plaza, New York City, and sales offices in Chicago, Boston, Lufkin, Texas, and Stockholm.

The Valentine mill is being constructed at a cost of approximately $3 million to produce 50 daily tons of dissolving pulps and newsprint. Raw material will be bagasse.

## Pensacola Expanding Again; May Go to Chlorine Dioxide

Another additional 6-stage bleach plant, with provision for chlorine dioxide bleaching later, a screen room extension and changes on No. 1 Fourdrinier to make bleached grades are highlights of a $4,500,000 expansion at the St. Regis Pensacola, Fla., mill.

## Valdosta Soon Starts Up

Karl Guest, mill manager of the new Valdosta, Ga., 500 tons per day pulp and linerboard mill of National Container Corp., told PULP & PAPER last month the mill would be in operation in December.

### SOUTHERN NOTES

*GEORGE H. PRINGLE*, vice president for white paper operations, The Mead Corp., has also assumed responsibility for direction of the Kingsport, Tenn., division as its general manager. *GEORGE F. McCREA*, Kingsport manager since 1948, has been transferred to Chillicothe, O., to join the staff of First Vice. Pres. *D. F. MORRIS*. He went to Kingsport in 1928 as technical director. He is a native of Circleville, O., graduated from Washington & Jefferson.

*L. E. BLACKWELL, JR.*, sales application engineer with Reliance Electric & Engineering Co., has been assigned to the Charlotte, N.C., branch under *FRANK W. LEITNER*, branch manager. He graduated from Duke.

*H. A. (DUTCH) HELDER*, vice president and manager of the Canton, N.C., division of Champion Paper, was honored on his 45th year with the company by a party at Lake Logan lodge with many top company execs present, and was given a wrist watch. *GEORGE TROSTEL*, mill manager, presided.

*HENRY RIGBY*, assistant to President R. B. Robertson Jr. of Champion, has had a six months assignment at the Canton, N.C. mill.

*JOHN K. TRUITT*, general traffic manager, Champion Paper, and *HUGH MEASE*, traffic manager at the Canton mill, were hosts to a three day outing Lake Logan, N.C., for railway executives.

*GLENN SMATHERS*, pulp mill superintendent, Houston, Tex., division of Champion, started in the North Carolina mill and moved to Texas when that mill was built in 1936. One of two daughters lives in Florida and a new interest for him are two grandchildren, a boy and a girl.

### IN INDUSTRY NEWS—SOUTH—EAST—FAR WEST

NEWS PICTURES by PULP & PAPER editors show (l to r):

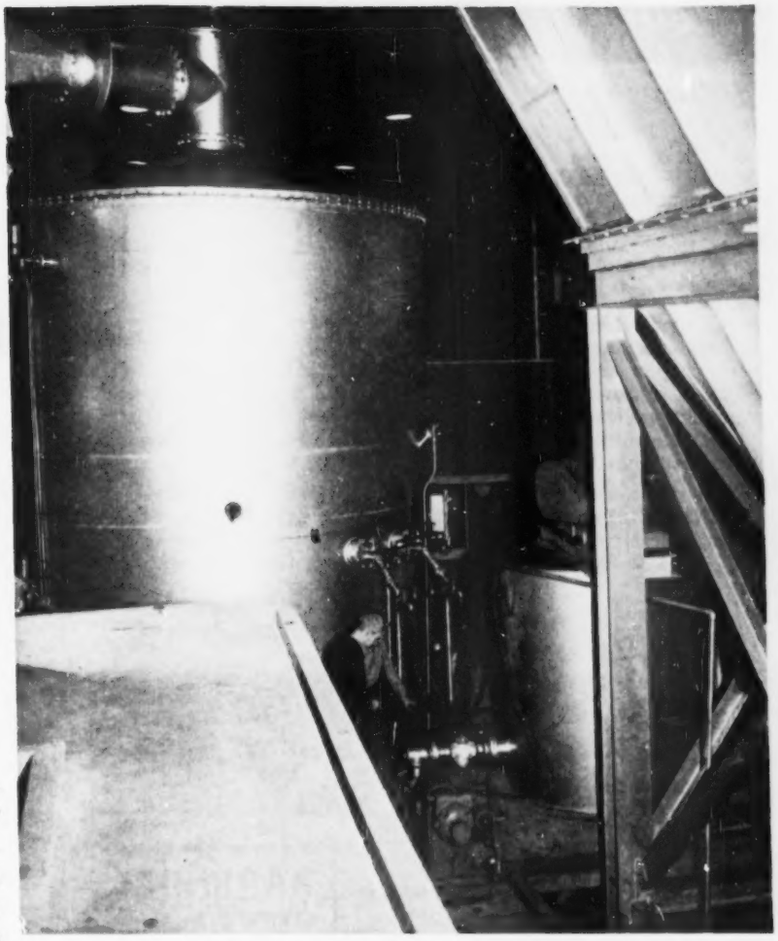
JIM A. HAWKESWORTH, new Western Branch Mgr. for Groton & Knight Co., moving to San Francisco from Portland, Ore., where he was Northwest Rep. since 1945. He joined the Worcester, Mass., firm in 1913, was in its British branch when he enlisted in U.S. Army Engineers in W.W. I, serving in France, and directed a Groton & Knight shop in Shanghai where he served in an armed volunteer corps to protect U.S. business there during the Sino-Japanese War.

J. H. PALMER, of M. N. Dannenbaum Co., Houston, Tex., was recently named Southwest Representative for Multi-Metal Wire Cloth Co. of New York.

RAYMOND E. STEARNS, new Asst. Gen. Mgr. of United Board & Carton Corp., under Pres. and Gen. Mgr. Wm. S. Stuhr, with offices in New York City (2 Park Ave.). Native of St. Mary's, he was with Container Corp., as Philadelphia Gen. Supt., and for years with United before going with Empire Box Corp., where he had been Exec. V. P.

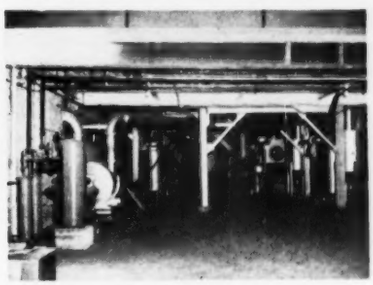
JACK V. SAVAGE, Crown Zellerbach's Sulfite Supt. at Camas, Wash., passes 30 yr. pin from REED O. HUNT, Vice Pres. in charge of Manufacturing, to JOHN A. NEELY, Wet Room Foreman of the Sulfite Dept. at Camas. At Camas, 259 employes received pins signifying a total of 3,200 man-years service.

# ACID Requirements of Sulfite Pulp Mill are met with Dorrco FluoSolids System



Closeup of Dorrco FluoSolids Reactor at Port Arthur showing slurry storage tank and dual feeding arrangement.

**PORT ARTHUR, ONTARIO —** At the Thunder Bay Mill of Abitibi Power & Paper Company, Ltd., a Dorrco FluoSolids System has been on stream since June, 1953 producing $SO_2$ gas from pyrite. The System at the present time is roasting 20 tons per day of pyrite to supply the entire sulfur requirements of this sulfite pulp mill. Up to 14% $SO_2$ gas is produced which passes through a two-stage cyclone system followed by a cooling scrubbing tower before going to the acid towers. An interesting feature of this installation is the use of a heat-exchanger in conjunction with the scrubber. By recycling scrubber water, loss of dissolved $SO_2$ is minimized and at the same time waste heat recovery is effected.



Bottom floor of Reactor building showing blower at left and cyclone quench tanks at right. Reactor windbox is visible at right center.

In addition to this installation at Abitibi's Thunder Bay Mill, seven more FluoSolids Systems in the U. S., Canada and Norway are either in operation or under construction in sulfite pulp mills for the production of $SO_2$ for cooking liquor. Fourteen more are in operation or being installed to produce $SO_2$ from pyrite, zinc and low grade sulfur ores at acid plants, which will produce close to a million tons per year of $H_2SO_4$. This impressive record results directly from the fact that the FluoSolids process can deliver an $SO_2$ gas at lower investment and operating costs than conventional roasters and provides users with an economically feasible and reliable source of $SO_2$ despite fluctuations in natural sulfur supply.

If you would like more information on FluoSolids — the most significant advance in roasting technique in the last 30 years — write The Dorr Company, Stamford, Conn., or in Canada, The Dorr Company, 26 St. Clair Avenue East, Toronto 5.

*FluoSolids is a trademark of The Dorr Company, Reg. U.S. Pat. Off.

# Personals

### MIDDLE WEST NOTES

*OTTO KUEMMERLING* has been appointed new general superintendent of Wausau Paper Mills, Brokaw, Wis. He succeeded *CECIL TAYLOR* who accepted a position as general superintendent of Columbia River Paper Mills, Vancouver, Wash.

*RICHARD M. ELIAS* has been appointed mill superintendent of Bergstrom Paper Co., Neenah, Wis., according to *FOSTER P. DOANE JR.*, production manager. Mr. Elias is a graduate of Lawrence College in Appleton and did graduate work at the Institute of Paper Chemistry. He joined Bergstrom in 1949 and has been assistant superintendent.

*THOMAS W. SEIDEL* died recently, leaving the vacancy as superintendent at Bergstrom.

*MAURICE LARSON*, with Bergstrom since 1923, moved up to assistant superintendent and he was succeeded as tour boss by *EDWARD SCOVRONSKI*, whose place as machinetender went to *HAROLD HACKSTOCK*.

*PAUL C. WESCO*, vice president in charge of sales and a director of Fox Rover Paper Corp., Appleton, Wis., died recently at Madison, Wis., after a long illness. He was 55. Cremation at Sheboygan followed services at Appleton. Mr. Wesco, born in Hamilton, O., went to Appleton from Chicago in 1921 as assistant sales manager of Tuttle Press, later was its sales manager, and joined the paper company as sales chief in 1940.

*HARRY CALVIN BRADFORD*, vice president and secretary of Rex Paper Co., Kalamazoo, died Sept. 6. Born in Kansas in 1881, he resided in Kalamazoo for 37 years.

*HOWARD R. PALMQUIST*, manager of Marathon woodlands operations, is 1953-55 chairman of the Wisconsin Forest Industries Information Committee, dedicated to promoting better forest management in the state.

*BOB McKNIGHT*, No. 1 mill superintendent for Champion Paper & Fibre Co., Hamilton, O., has had 37 years in the industry, all with Champion, where he started as a hand furnishing beater and he followed *EARL JONES* into the No. 1 superintendency in 1941. His hobby is his 160-acre dairy farm with 50 head of cattle, and he raises his own corn, hay etc. Greatest changes in the mill he has seen —"better working conditions, hours, and a real sense of comradeship."

*PAUL V. YINGST* has been appointed project engineer with Gardner Board & Carton at Middletown, O., coming there from Post-Glover Electrical Co., Cincinnati. He was born in Hershey, Pa., graduated from U. of Cincinnati in electrical engineering, and received a Law degree from Samuel Chase college and passed the Ohio bar exam. He was in charge of general headquarters radio division in Tokyo in the war.

*WILLIAM H. BRICKNER* has been appointed industrial engineer for Gardner in Middletown. He was liaison engineer with the U.S. Atomic Energy Commission in Albuquerque. He was born in Cleveland and graduated from Case Institute, went to Johns Hopkins graduate school and served in the navy in the war.

*SIDNEY L. SCHWARTZ*, chemical engineer with the U.S. Forest Products Lab., Madison, Wis., has gone to Israel to help put a new Sefen Co. wallboard plant into production at Afikin. Research at the lab led to the mill—using waste from a plywood plant using okume wood and mixing it with eucalyptus.

*PETER J. CHRISTMAN*, 59, held more than 150 patents for paper industry processes at the time of his death recently. He founded Paper Converting Machine Co. and Bay West Paper Co., in Green Bay, retiring when he sold the latter to Mosinee.

*WALTER A. RADKE*, Nekoosa, Wis., bank president and vice president and treasurer of Nekoosa-Edwards Paper Co., died Sept. 11. As a result, Vice Pres. *SAMUEL A. CASEY* was named treasurer of the paper company, and Vice Pres. *NEIL NASH* became secretary. *ALBERT PUELICHER*, Milwaukee banker, was named board vice chairman.

## K-C's Rothchild Honored At Neenah Luncheon

Henry A. Rothchild, now assistant to the executive vice president of Kimberly-Clark and for many years technical director for the company, recently completed 40 years of service with K-C and was honored at a luncheon in Neenah, Wis., by a group of company associates and other officials including President John R. Kimberly.

Mr. Rothchild started with K-C in the Kimberly, Wis., sulfite mill. He has been a leader in technical aspects of work carried on by Sulfite Pulp Mfrs. Research League in Appleton, Wis., finding ways and means of abating sulfite pollution.

# Personals

## PACIFIC COAST NOTES

*EDGAR C. SHERMAN*, technical assistant to the pulp mill supt., Crown Zellerbach, Port Townsend, Wash., has gone to Pt. Mellon, B.C., to be Howe Sound Pulp's kraft superintendent. He graduated from U. of Washington in 1934, started his career at Townsend and was former technical supervisor there. He served in the Navy in the war, leaving as Lieut. Commander, and was a reserve Commander and commanding officer of the Townsend Harbor Defense unit.

*JAMES HEUER* will represent Chemical Linings, Inc., of Watertown, N.Y., on the Coast out of Seattle. He is a son of the late John Heuer, veteran Weyerhaeuser superintendent, and brother of Red Heuer of Great Northern Paper Co.

*FERDINAND SCHMITZ* Jr., manager of the Shelton, Wash., sulfite pulp mill some years ago and now president of Berger Engineering Co., Seattle, became a grandfather recently when a daughter, Marilyn Roberta, was born to Mr. and Mrs. Ferdinand Schmitz III.

*WALTER A. JENSEN*, formerly in Buffalo, N.Y., sales office for Reliance Electric & Engineering Co., has been moved to San Francisco as an assistant to *ANDREW C. PERRIN*, West Coast district sales manager. A factory sales office has been added at San Francisco. *PERRY DUDLEY JR.* from Cleveland, has moved to Los Angeles. Mr. Jensen was born in New Rochelle, N.Y., and graduated from Cornell. Mr. Dudley was born in New Haven, Conn., graduated from Purdue, and both were in the navy in the war.

*JOHN P. VAN ORSDELL*, Seattle consulting forester and engineer, has flown to Panama where he is investigating timber for a U.S. syndicate.



## IN FAR WEST AND MIDWEST FOR DUPONT

**JAMES C. BETTY (left), appointed Manager of a new District office for Pacific Northwest sales for E. I. du Pont de Nemours & Co.'s Pigments Dept. On Jan. 1 Du Pont takes over pigments sales—including titanium dioxide pigments and pigment colors to paper mills—from Van Waters & Rogers and Vanderbilt Co., its representatives. Mr. Betty, 38, started in a Du Pont explosives plant in 1940, then was foreman in the Newark pigments plant and in 1947 went to Chicago in sales. Born in Wilmington, Del., he graduated from Georgia Tech. He lives at 1159 Bayberry Rd., Oswego, Ore.**

**WILLIAM M. BROADWAY (right), has been assigned to concentrate his work in the Wisconsin paper industry. He has been working out of Chicago. He started as a lab assistant at Edge Moor, Del., pigments plant in 1935, worked up to research chemist and was made salesman in Chicago in 1948. Native of Wilmington, he graduated with ch. eng. degree via night school at Drexel Institute. He is 40.**

*P. DEAN GRAHAM* has been transferred from the Newark, N.J., pigments plant of Du Pont Co., and will be stationed in Kalamazoo, Mich., to represent the pigment division in the Michigan and Ohio paper industries as salesman. He is 32 and joined Du Pont in 1942 as chemist at the Childersburg, Ala., ordnance plant. Born in De Land, Fla., he graduated from the U. of Florida and served in the navy in the war.

*JAMES WILBER*, son of *ROLAND WILBER*, now with the State Workmen's Compensation Service in Lewiston, Idaho, and a former manager and superintendent of mills in California, Idaho and Southern states, was appointed to the U. S. Naval Academy by Senator Dvorshak of Idaho.

*DEAN BANTA*, who is 41, has become assistant to President C. A. Buckland at Inland Empire Paper, and Dean's former assistant, *JOE STOUT*, has become purchasing agent. Joe's father, retired, was in the finishing department for years and Joe joined Inland Empire in 1929. Dean's father, too, was in the mill—sulfite supt. The late *MYRON BLACK'S* positions as mill manager and technical director may not be filled for some time, according to Mr. Buckland. Mr. Black left a big hole in the mill management. Mrs. Black is teaching in Millwood and their son, *MYRON BLACK JR.*, who made the debate team at California Institute of Technology, had a 3.7 grade average to make the sophomore honor section there, where he is studying applied chemistry.

*BOB STEVENS*, veteran Los Angeles paper mill consulting engineer, and *CLAUDE SHARP*, a Los Angeles mill su-

## *Meet the man* you can call with confidence to solve your thermal insulation problems

**To insulate outdoor tanks** with complete weather protection, these skilled J-M applicators follow a specification developed by Johns-Manville. Here they are fastening J-M Asbestocite* Sheets over J-M Zerolite* Insulation. J-M 85% Magnesia Insulation is also widely used for this type of equipment

## *He is your J-M Insulation Contractor*... the man with the world's most complete insulation engineering service

"Insulation is no better than the man who applies it." Today, with rising fuel and maintenance costs, it is especially important to place your insulation job in skilled hands. The scientific application of J-M quality insulations by J-M Insulation Contractors will assure you of the maximum return on your insulation investment for years to come. Moreover, you get undivided responsibility for *all* your insulation requirements.

**1. You get dependable materials**—Johns-Manville manufactures a complete line of insulations for every service temperature from minus 400F to plus 3000F. From them your J-M Insulation Contractor can select the right insulation for the most dependable service on your job. To develop new and improved insulation materials Johns-Manville maintains the J-M Research Center—largest laboratory of its kind in the world.

**2. You get dependable engineering**—For 95 years Johns-Manville has been accumulating insulation engineering experience. J-M Insulation Engineers are called upon to solve insulation problems of every type and magnitude, in every industry. Since your J-M Insulation Contractor works closely with J-M Insulation Engineers, he brings to *every* job a high degree of training, skill and experience.

**3. You get dependable application**—Johns-Manville has set up a nationwide organization of J-M Insulation Contractors to serve you. These Contractors maintain staffs of insulation engineers as well as skilled mechanics thoroughly trained in J-M's proved application methods. You can have absolute confidence in their ability to apply J-M insulations correctly for trouble-free performance.

For further information and the name of your J-M Insulation Contractor, write Johns-Manville, Box 60, New York 16, N. Y. In Canada, 199 Bay St., Toronto 1, Ont.

*Reg. U. S. Pat. Off.

# Johns-Manville *FIRST IN* INSULATION

MATERIALS · ENGINEERING · APPLICATION

# Personals

perintendent, have gone to Sweden to start up a new Black & Clawson machine in a board mill.

*O. T. DEFIEUX*, plant engineer of Crown Z, Camas, Wash., has been assigned to the organization's headquarters industrial relations dept. on special work. *J. M. MILLER*, formerly superintendent of electric power, was promoted to plant engineer and *L. W. BAILIE*, assistant superintendent of electric power, advanced to the superintendency.

*FRED SIEVERS*, groundwood mill superintendent, Crown Z, Camas, Wash., has been appointed editor of *Gleanings*, official publication of Northwest Region, Men's Garden Club of America. He's currently vice chairman of the national wild plant division and past president of Northwest region.

*OTTO MICHAELIS*, assistant sulfite superintendent of CZ, Camas, retired Sept. 30 after 43 years at this plant.

*HARRY L. DEITS*, senior engineer, CZ, Port Townsend, Wash., became assistant plant engineer Sept. 1. *MAX W. BROWER*, formerly assistant master mechanic, became senior engineer at that time.

*HARRY F. KOLB*, who has been manager of the Papermakers' Chemical Department, Hercules Powder Co., San Francisco, for the past 14 years, and a veteran of 48 years with the company, has retired and gone into business for himself at 420 Market St., San Francisco, under the name of Harry F. Kolb, and will specialize in sale of domestic and imported casein.

## NEW COLUMBIA RIVER SUPT.

CECIL TAYLOR, formerly mill manager of Wausau Paper Co., Brokaw, Wis., has been named general superintendent of Columbia River Paper Mills, Vancouver, Wash., and assumed his new duties Oct. 15.

## CANADIAN NOTES

*WENTWORTH BROWN*, former vice president of Brown Co. and Brown Corp., arrived in Vancouver, B.C., in September to assume his new duties as vice president and general manager of Columbia Cellulose Co. and Celgar Development Co. and vice president of Canadian Chemical & Cellulose Co., Canadian subsidiary of Celanese Corp. of America. He is now top executive officer for the company's bleached sulfite mill at Prince Rupert and the projected integrated wood processing industry at Castlegar, B.C.

*H. R. MacMILLAN*, chairman of MacMillan Bloedel, played host on his yacht to Britain's *SIR GLADWYN JEBB*, United Nations emissary, who flew out with his daughter for the occasion. *MR. MacMILLAN* incidentally set the season's record for British Columbia salmon anglers by landing a 69 lb. giant off Rivers Inlet.

*ROBERT ALPEN*, for many years representative of Canadian Ingersoll Rand in Vancouver, B.C., has resigned to assume management there for C. C. Moore & Co., representing Babcock & Wilcox. He succeeds *HOWARD WRIGHT*, recently appointed chief engineer for the cellulose division, Alaska Pine & Cellulose Ltd.

*EDGAR C. SHERMAN*, former technical supervisor and technical assistant to the kraft superintendent for Crown Zellerbach Corp. at Port Townsend, Wash., mill, has been appointed superintendent of Howe Sound Pulp Co. at Port Mellon. This position has been vacant since Canadian Forest Products and associates took over the mill from Sorg Pulp Co. *DAN WILLIAMSON* is resident manager.

*HON. EARL ROWE*, president of Great Lakes Paper Co., recently officiated at a celebration in Fort William, Ont., of the mill's 25th anniversary of newsprint manufacture. Vice president *C. A. MICHELS* acted as chairman, and among top personnel present were *CHARLES ENGLAND*, secretary-treasurer; *J. E. GEFAELL*, vice president in charge of sales; *H. A. KELLEY*, general mill superintendent; *J. H. GODDEN*, woodlands manager.

*DR. C. J. MACKENZIE*, past president of Canada's Research Council, who will soon retire as president of Atomic Energy of Canada, Ltd., will become associated with Canadian Chemical & Cellulose Co. in an advisory capacity, President *MAXWELL MACKENZIE* has announced. The CCC organization has a pulp mill, Columbia Cellulose Co. at Prince Rupert.

*WILLIAM McMAHAN*, associated with Canadian Forest Products, big British Columbia forest industry corporation, since its inception, has been made second vice president. His duties include direction of the Howe Sound Pulp Co. at top management level.

*A. B. LAYTON*, vice president of Crown Zellerbach Corp., addressed British Columbia investment men in Vancouver recently, and told them that the company's assets in the province now totalled some $90,000,000.

*R. M. FOWLER*, president of the Canadian Pulp & Paper Association, Montreal, has been elected chairman of the executive council of the Canadian Chamber of Commerce.

*HOWARD URQUHART*, assistant resident manager of Powell River Co., has been attending a business administration course at Harvard University.

*JOHN H. FISHER*, University of British Columbia honor graduate in chemistry who has been serving the chemical and pulp industries in various capacities since 1935, has been made director of research, MacMillan & Bloedel, and *EARL HALLONQUIST* will be his assistant.

*SIR NOEL BOWATER*, vice chairman, Bowater Paper Corp., has been elected lord mayor of London, the third member of his family to be so honored. His father, *SIR FRANK BOWATER*, was lord mayor in 1938, and his uncle, *SIR VANSITTART BOWATER*, in 1913. *SIR ERIC BOWATER* is head of the paper firm and of Bowater's Newfoundland Mills.

## THREE INDUSTRY MEETINGS IN NEXT NINE MONTHS

SHERATON-MOUNT ROYAL HOTEL in Montreal, Canada—scene of many pulp and paper industry meetings—will have a big year ahead. Starting with late October it had the Tappi Engineering Conference; then in January it will have the big meetings as usual of the Canadian Pulp & Paper Association, and next June it will be host to the American Pulp & Paper Mill Superintendents Association, planning a big international convention there in that month.

# Parsons & Whittemore

*London*
*Paris*
*Zurich*
*Stockholm*
*Oslo*
*Hamburg*
*Toronto*
*Buenos Aires*
*Sao Paulo*
*Rio de Janeiro*
*Sousse, Tunisia*
*Madras, India*
*Edinburgh*
*Vienna*
*New York*

**—the name for**

**pulp**
**paper**
**paper-making machinery**
**graphic machinery**

**the world over**

*Amsterdam*
*Brussels*
*Port Elizabeth*

100TH ANNIVERSARY

**LYDDON & CO.**
35 New Bridge St., **London EC4, England**

**PARSONS & WHITTEMORE**
250 Park Avenue, **New York 17, New York**

# Pulpwood section


# WEST WOODS TOUR REPORT

A TWO-BUS WOODS TOUR in connection with the Pulp and Paper Industry Executive Conference which was held in the Pacific Northwest in mid-September meandered over some 300 miles of mountain logging roads and by-ways between Seattle and Portland, Ore.

It was a never-to-be-forgotten experience for the average 50 top executives and woodlands managers who made the trip, some dropping out and others joining along the way during the three days. Then 14 of them continued on a two-day flying trip to Alaska to see the new Ketchikan Pulp Co. mill under construction and view from the air the Forest Service spruce and hemlock forests that will support it in perpetuity.

Most of the bus tour was off the well-traveled roads. The first stop, however, was at the forest industries-owned Tree Nursery, located for sound publicity reasons right on the busy Pacific Highway.

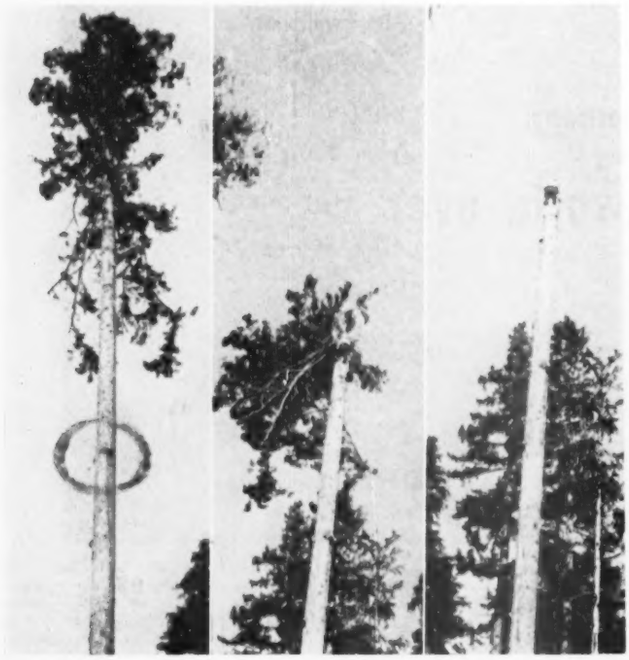
The APPA forestry committee-sponsored tour showed to all the executives that Tree Farming is a day-by-day practical and successful undertaking in the Far West where good management has brought about an average growth of 1⅛ to 1½ cords per acre over 60 to 80 year cycles and up to 3 to 4 cords in some rain forests of the West.

At Nisqually, Chief Forester Clyde Martin of Weyerhaeuser Timber Co., and nursery tenders told the touring party how 54,000,000 fir, cedar and spruce trees have been started here and transplanted on 95,000 idle lands elsewhere. Many went to the state of Oregon to plant in Tillamook Burn. Each year 750 lbs. of seed are sown. Seed can be kept in refrigeration for 10 years. Tear gas is used to destroy fungi and weed seed before sowing. Costs vary from $3.50 to $6.00 per thousand. Next year, 9 million of the 15 million trees now in the nursery will be planted on another 15,000 idle acres.

Across the Tacoma Narrows bridge over Puget Sound, the industry tourists wended their way next to Simpson Logging Co.'s new Mason Lake outdoor luncheon and meeting pavilion. Here C. H. Bacon Jr., recently named v.p. and general manager of Simpson operations in the area, Bud Pahn, Shelton working circle manager, Gil Oswald, new manager of Simpson's fiberboard mill, and Rayonier Shelton mill officials—George Cropper, manager; Winston Scott, assistant manager, and Ed McGill, general supt.—and Lyall Tracy, Rayonier public relations chief, were the hosts. (President Clyde Morgan of Rayonier, Chairman William G. Reed and President Thomas F. Gleed of Simpson; Harry Thurlow and George Holt, Rayonier managers from Port Angeles and Hoquiam, and Morton Houston and Charles Conrad, other top Rayonier officials, were on hand at dinners in Seattle and Olympia).

A highlight of the Mason Lake session was an address by Len Forrest, land division manager for Rayonier, in which he outlined a good management program which would include strict inventories and fire control, aerial photography, soils analyses and laboratory research. He told of the 60 billion ft. of timber on Olympic Peninsula on which 21 paper and fiber mills and 128 other forest industries are dependent and pointed out a large part is locked up with much over-mature timber, mostly inaccessible and unseen by tourists or local residents, except a few hardy mountaineers. (His complete address is published in this PULPWOOD SECTION).

Oscar Levine, manager of the South Olympic Tree Farm described that operation, in which Simpson owns 100,000 acres, Weyerhaeuser, 60,000 acres, the Milwaukee Road, another large portion, and other smaller private owners participate. Costs of the farm operation are pooled and profits shared. He reported fire losses were less than one-tenth of one percent. He told how federal, state and private fire agencies meet each spring in Shelton to plan protection, inventory fire fighting equipment and spot equipment on maps.



**THESE THREE VIEWS OF TREE TOPPING** in St. Helens Tree Farm: (1) High Climber ELDON McCOY is in middle of the circle, going up the 250 ft. high tree. He has been doing this kind of work for 7 yrs. (2) He has just finished sawing through the trunk—the top is falling. (3) Here he is hanging onto the top of the 150 ft. spar tree that remains. The top of the spar sways in a wide arc after its top falls. Diameter at top of spar is 30 in.

### *South vs. West Tree Growth*

Norman Worthington, U. S. Forest Experiment Station official at Shelton, who said he formerly was with the Service in the South, declared growth in the Shelton area per acre was twice that of the South in a 100-yr. period. He said it was as easy to grow two cords per acre per year in the Far West as one cord in the South. He

told of three or four cords per acre being grown in some areas in western Washington.

This stirred up a friendly debate on the subject of South vs. Far West growth, with Gunnar Nicholson, of Union Bag & Paper Corp., and Vertrees Young, of Gaylord Container, both executive vice presidents of Southern operations, joining in. There seemed agreement that diameter growth per year was fairly even in South and West, and that the two sections ran fairly even for 30 years or so, but for the next 30 or 40 years, western trees continue to grow and reach much greater heights which give them the big edge in fiber growth per acre over a long cycle. Mr. Worthington said more stems would grow per acre in the West and he cited diameter growths of two inches per decade per tree. (For more details on fiber growth see lead article in this issue: *Working Tree Farms*).

The Simpson Logging Co.—U. S. Forest Service Cooperative Sustained Yield Unit operation was also discussed. This unit was set up in 1947 with the Forest Service pooling 130,000 acres with Simpson's 176,000. It is scheduled to produce 100 million bd. ft. cut every year for the next 100 years, whereas the government could only have produced about half that amount alone, and this is expected to give economic security to towns in the area.

The unit's management plan was described and illustrated with charts and aerial maps. It is based primarily on aerial photographs. Changes in resources are kept current on type map controls. Reproduction survey maps are made, planting and seeding accomplishments are also mapped. Fire hazard reduction is scheduled and also mapped to show accomplishment. All this information is tabulated and cross referenced. Inventory and cruise data are kept in detail and IBM source cards and inventory cards "mechanically" provide any reports desired.

Simpson officials reported they have 40 years or more of logging in old growth


**FORESTRY TOUR OF EXECUTIVES CONFERENCE**
**Dotted Line Shows Route Taken**

fir before they will have to start cutting second growth. The old growth is now 100 to 300 years old. Second growth is rated at 70,000 bd. ft. per acre for 70-year old stock and ranges from 40,000 to 100,000 f.p.a.

The expedition then went into the 340-acre McCleary Experimental Forest on Simpson lands, where the Forest Service conducts studies in management of young growth forests. It was demonstrated that thinning and partial cutting increased growth of hemlock and spruce. But foresters seemed agreed this was usually not possible in the case of Douglas fir, which needs sunshine for growth and thinning generally did not permit more sun because of the heavy, high crowns.

On this site, trees are estimated to grow 160 ft. tall in 100 years. One tree was pointed out, 61 years old, 158 ft. high, still growing $1\frac{3}{4}$ inches in diameter every five years. Present diameter is 22.9 in. Increment on this forest was estimated at 1.55 cords per acre per year, with Douglas fir growth slightly higher.

It was stated that the operator paid $12.50 per thousand ft. for Douglas fir stumpage and $6 for alder stumpage. In five years, 11 cords per acre have been thinned in 210 acres. About one-fifth of the area is thinned each year, conforming to a 5-year thinning cycle planned for the forest.

### *A Day on St. Helens Tree Farm*

The second day of the tour was spent entirely in the big St. Helens Tree Farm of Weyerhaeuser Timber Co., with Vice President Howard Morgan, Clyde Corman, general logging manager of the Longview Branch, Clyde Martin, chief forester, and others as hosts. Three young Weyerhaeuser foresters, J. M. Larson (Iowa State), Bob Johnson (Minnesota) and Nelson Jeffers (U. of Idaho) were the guides and "lecturers."

Weyerhaeuser tree farming and plantations date from 1938. The St. Helens Farm comprises 400,000 acres and nothing on it is cut under 170 or 160 years old. Over 600 miles of roads have been built at the rate of 50 miles per year now, which the Weyerhaeuser forestry department takes over and maintains. Distance between roads is about half a mile for skidder logging, one quarter of a mile for truck logging.

Every stand now is pre-logged first for 20 in. or smaller diameter logs for pulp. This year 37,000 cords will be pre-logged, thinned and salvaged after logging for pulp. Tree growth, as reported in this is-

**ON A CROWN ZELLERBACH TREE FARM in OREGON, delegates saw a new method of highlead yarding of pulp logs by means of the tractor-mounted steel spar (extreme right) and loads with air tong-equipped shovel (in foreground).**

**PART OF GROUP which stopped at Astoria, Ore.'s Astor Column from which most of Crown Zellerbach's 135,000-acre Clatsop Tree Farm can be seen. Foursome at left looking at Tree Farm map (l to r): FRANK N. YOUNGMAN, Vice Pres. of C-Z and Pres. of its subsidiary St. Helens Pulp & Paper Co.; ED P. STAMM (back to camera), C-Z Logging Vice Pres.; TED FOSTER II, Secy-Treas., Foster Paper Co. (partly obscured behind Mr. Stamm), and JAMES L. RITCHIE, Exec. Director, U. S. Pulp Producers. Shading his eyes farther to right is ALBERT ERNEST, St. Regis Logging Vice Pres. in South.**

sue's lead article, is figured at 600 bd. ft. per acre (1½ cords) per yr. in 80 year cycles and mostly Douglas fir. Last year it cost Weyerhaeuser $25.37 per acre to plant. In the mountain foothills and ranges of St. Helens Farm, much strip cutting is done and reseeding is natural from stands left on surrounding or higher ground.

In this day's memorable tour, the executives saw stock growing in areas ranging from 15 years to 250 years old, they saw a unit transfer truck-to-r.r. car reloading station, a plantation with heavy animal damage, staggered settings, natural and artificial reproduction, experimental spacing and thinning. Highlights were views of 10,000 ft. high Mt. St. Helens at an outdoor lunch and a high climber's tree topping demonstration.

Interesting to the visitors was the news that bears have only in the last five or ten years discovered a taste for the cambium layer under the bark of trees. It is assumed a few bears started the diet and were copied by others. Now they are killing many trees by clawing off the bark. The cambium serves them as a laxative. Damage caused by deer and other animals that eat young tree sprouts was also described as heavy in some areas.

Advantages of strip over square block clear cutting were pointed out—less blowdown, easier slash burning and better road access.

Visitors were impressed by the heavy equipment, the high cost logging operations, the truck and trailer combinations they saw costing $34,000 per unit, but little of this had significance for those from the other areas of the country. They saw railroad cars loaded for Weyerhaeuser's great wood industries center in Longview at the rate of 300 cars a day carrying 60 to 100,000 lbs. each of logs. Southerners on the tour said this was about the same weight carried on cars in the South.

ANOTHER OF ST. HELENS Tree Farm views with Mt. St. Helens in background (see cover picture). Industry leaders gazed with awe and admiration on thriving forests—these in picture are second growth firs —only 20 to 25 years old.

### *Last Day in Crown Z Farms*

The final day's tour started early at Longview and terminated late that evening at Portland, Ore., the day devoted to an extensive visit in two of Crown Z's nine Northwest Oregon Tree Farms. CZ Vice Presidents F. N. Youngman and E. P. Stamm, and Chief Forester Clarence Richen represented the host firm. Handling of small logs, thinning operations in 50-60 year stands and the results obtained from such thinning were demonstrated.

The visitors observed operations carried on by Crown's independent contractors who fall, buck and skid logs to roadside landings with small tractors, and also saw the logs loaded and hauled from the woods as a company operation. These logs average 11 in. diam., 23 cu. ft. volume.

In the Youngs River area the group visited CZ tree plantations established 20, and more, years ago. After lunch in the woods, visitors were taken to Astor Column, atop a high peak in Astoria, which memorializes early Pacific Northwest history starting with Gray's discovery of Columbia River in 1792.

From the monument practically all of the 135,000-acre CZ Clatsop Tree Farm was observed. Later the group visited a company operated unloader where pulp logs are removed from truck-trailers, a load at a time, in "asparagus bundles" encircled by steel straps. The unloader places these log bundles in Lewis & Clark River for rafting and towing 119 miles up the Columbia to the big Camas mill.

Further insight concerning western Tree Farms resulted from traveling up the company-owned Lewis & Clark truck road to a logging operation where Crown yards pulp logs by highlead system through use of tractor-mounted 50 ft. steel spar and loads the logs onto trucks and trailers with a shovel equipped with air tongs.

Continuing through this extensively forested area via Tree Farm roads, the group emerged on scenic east-west Sunset highway for dinner and proceeded to Portland.

# FAR WEST FOREST PROGRAM

## RAYONIER STRESSES SEVEN POINTS FOR GOOD MANAGEMENT

**By Len J. Forrest**
**Manager, Land Division, Rayonier, Inc.**

**Pulpwood section**
**PRODUCTION • MANAGEMENT**

IT IS IN the northerly and westerly portion of Olympic Peninsula in western Washington that Rayonier conducts its operations. This vast acreage, which constitutes the Olympic Peninsula, contains an estimated timber volume of 60 billion feet. This timber volume ownership falls in the several classifications of private, state, federal and Indian. I might add that the percentage of privately owned land is in the minority.

Twenty-one paper and fiberboard plants, 13 plywood plants and 115 sawmills and shingle mills rely either entirely or partially on a supply of wood from the peninsula.

The majority of the industries in western Washington west of the Cascades are dependent upon a supply of wood as a basic raw material for their plants. These plants which constitute our timber industry in western Washington intend to continue their operations and stay in business. They have confidence in the ability of our land to grow timber.

All land, regardless of where it may be situated, should be put to its highest and best productive use. In the western part of our state the highest and best use of the majority of our land is that of growing timber. The type of land we have here will produce all the wood our industries will require with little help from man. The help it does need and must have to be successful is the same consideration a farmer gives his crops. Rayonier feels strongly on this point. The help our land does need is reasonable and practical land management which includes sound cutting practices, fire prevention, insect and predator control and generally good forestry practices. These are the major efforts required to keep our western Washington lands in the production of timber for our industries. It is a reasonable, sound and proven program that the majority of timber owners and users accept and have adopted as policy.

### *Rayonier's Plants and Properties*

Rayonier is a leading producer of chemical wood cellulose. We operate three plants in the Pacific Northwest and one in Fernandina, Fla., and a new mill is under construction in Jesup, Ga. The three plants in the Northwest are in Shelton, Port Angeles, and Grays Harbor. These three plants consume in excess of 300 million bd. ft. (600,000 cords) hemlock and pulp logs each year. Rayonier manage-

# PULPWOOD HANDLING SPECIALISTS!

## LORAINS FIT THE NEEDS ON EVERY CLASS OF WORK

That "king-size" pulpwood handler at top right is the new big Lorain 820-KS Rake. In one fast swoop, it reaches out 62 ft. and rakes 5 ft. pulpwood from barges to conveyor system at the conveyor capacity rate of 100 cords per hour. Time saved is tremendous — savings in barge damage are even greater.

The big "820" Rake is a typical example of the way Lorain has met the needs of the pulpwood industry — designing and building machines that fit the very special handling problems of the industry. Other examples also are shown. Mountings are on either crawlers or rubber-tires — slings, grabs, rakes can be had at your option to handle pulpwood — jackstrawed, piled or bundled . . . wet, dry or frozen . . . large or small — in the woods or at the mill.

To you, here's how it adds up. Bring your pulpwood handling problem to your Thew-Lorain Distributor. He can show you dozens of examples, help you get the most for your money — because Lorains are *specialists* in solving pulpwood handling problems. You'll find the right answer for low-cost and profit!

**THE THEW SHOVEL CO., Lorain, Ohio**

THEW LORAIN®

**BIG RAKE**

*If it's big production you want, this Lorain 820-KS Rake can speed up unloading from barges to mill conveyor. The Rake — in two sizes — is a new idea in pulpwood unloading . . . a specialized tool designed by Thew-Lorain for the pulpwood industry.*

**SLING**

*15-ton Lorain Self-Propelled crane, with gooseneck boom specially designed to handle bundled pulpwood. Speeds up to 7 m.p.h.*

**GRAB**

*On this blockpile, it's a Lorain-50 with pulpwood grab. Mounted on crawlers, it keeps busy on loading operations from pile to conveyor.*

**LITTLE RAKE**

*Another Lorain Rake, in the popular TL-25 "Series", shown unloading cars. Note how Rake arm reaches over car — cleans it off completely — high production — minimum car damage. Write for literature on Lorain Rakes and other types for pulpwood handling!*

ment, recognizing the necessity of a sustained wood supply for their mills, embarked on a timber and timber growing land acquisition program as early as 1937. The purchase of several large operating organizations followed in rapid succession (biggest were lumber timberlands of Polson and Bloedel enterprises) so that by 1950 Rayonier was in the land management and tree farming business in a substantial way—and in earnest. By that time a total acreage of timber and growing lands had been acquired in fee in excess of 300,000 acres, extending over a portion of five counties. In addition cutting rights to approximately 63,000 acres of public lands are presently under contract.

In order to provide a more orderly method of administrating the Rayonier timber and tree farm properties three working circles were formed. Each working circle is designed so that from a geographical and topographical standpoint the timber produced from each will serve a specific plant. I do not mean to imply that such a working circle program is hide-bound, because it is not. A plan of this kind must be kept flexible from both a land management and operating standpoint. Two existing rail lines serve the Grays Harbor and Clallam County (Port Angeles Mill) working circles. Rayonier has a 45 mile railroad mainline in Grays Harbor and a 41 mile line in Clallam County. A network of spurs and branch lines totaling well over a hundred miles is also a part of these two rail systems.

I mentioned that a large acreage was held by our organization under cutting contracts. A heavy percentage of that acreage is contained within the Quinault Indian Reservation. We are operating two large Indian Units in the Quinault and are treating them just as carefully from a land management and forestry standpoint as if Rayonier owned the land in fee. The Indian owners have been allotted 80 acres each, which are held in trust by the U.S. which necessitates a little different treatment in the management of these lands than would normally be encountered. The result Rayonier is attempting to achieve in the reservation is one of providing a forestry plan and program that will keep these excellent growing lands continuously growing timber for the benefit of the Indian owners and the industrial economy of the state.

### 7-Point Management Program

We have made remarkable progress in the timber industry in the management of timber and tree farm properties within the past 20 years. Rayonier is proud of the part it has played in the development of new methods, new techniques and experiments—all of which are designed to:

1. Achieve closer utilization of the present old growth timber supply through salvage operations or pre-logging.
2. Planned block cutting schedules to insure natural regeneration.
3. Artificial restocking programs on burned or unsatisfactorily stocked acreage.
4. Thinning operations on young and immature age class stands which produce not only a usable wood supply for the plants but more important results in the improvement of the residual stand.
5. Strict inventory control of our timber and tree farm lands. This is a very important factor as this knowledge is basic in any timber management program.
6. Careful control over insect and predator destruction of timber stands. We have mentioned predators before and it might be well to tell you that I am referring to bear damage to the young trees. The bears tear the bark away and eat the cambium layer which kills the tree. For two years Rayonier has employed a professional hunter to destroy these pests and in this manner reduce the damage to the young timber stands.
7. Last—but most important of all—is the protection of the properties from fire. All of the planning, time, money and the future of entire communities depends on how well timber or timber growing lands are protected from fire. We have all witnessed incidents in western Washington in which 30 years of careful planning have been lost overnight due to fire. That is the reason every logging operator, timber owner, and all of our communities which are dependent on wood using plants for their existence have fire prevention and suppression uppermost in their minds during fire season.

The above points, I believe, are the basic ones which are essential in any well rounded land management program if it is to be successful.

**LEN FORREST, author of this article and Lands Dept. Mgr. for Rayonier Inc., headquarters in Hoquiam, Wash.**

**VIEWS ON FAR WEST Woods Tour:**
**(Top left): This big Kenworth Truck and its Trailer, which it is riding piggy-back here as day's logging ended, costs about $34,000. Weyerhaeuser uses 63 of them in Longview area alone.**

**(Top right): Clarence Richen, C-Z Chief Forester, is helping Weyerhaeuser forester hitch up two loud speakers in p.a. system especially added onto 60 watt 2-way mobile radio truck unit which led St. Helens tour.**

**(Bottom left): A Hay-rack Boom operated from spar tree is lifting about 70,000 lbs. of logs in slings from a truck trailer and will load on logging car. Logging car loads of 60,000 to 100,000 lbs. approximate the weight of rr car loads in South. Over 300 cars a day are loaded for the Longview lumber, plywood and pulp operations of Weyerhaeuser. (Center): American Hoist & Derrick diesel electric crane is shown in woodyard of Rayonier Inc., Shelton, Wash., unloading alder and cottonwood from a truck and stacking it in woodyard. Without outrigger its capacity is 26,400 lbs. at 30 ft. radius. (Bottom right): A typical woods scene—this one in McCleary Experimental Forest on Simpson Logging Co. lands in Grays Harbor county, Wash.**

### New Forestry Techniques

I would like to touch on a few techniques which are relatively new in their use as applied to timber management.

The use of *aerial photography* by Rayonier forestry in inventory control, acquisitions and in the preparation of topographic detail required by the engineering staff in determining and establishing access roads has produced cheaper and more accurate information than we have ever experienced before.

In recent months Rayonier has established a *soils analysis* laboratory in our forestry department. Through soils analysis we are acquiring needed information for a more precise appraisal of lands for acquisition, planting programs and in the improvement of timber growth and yield studies.

*Thinning projects* are no longer in the research or experimental stage so far as Rayonier is concerned. They have proven

SNAPPED ON WOODS TOUR. (Left) PETER FOSTER, Asst. Secy.-Treas., Foster Paper Co.; REED PORTER, Exec. Secy., Pulp Consumers Assn., and GUNNAR NICHOLSON, Exec. Vice Pres., Union Bag & Paper Corp. (Second left) DR. WILLIS VAN HORN, representing Institute of Paper Chemistry; N. O. SEAGRAVE, Port Huron Sulfite & Paper Co., and CHARLES SAGE, Vice Pres., Kimberly-Clark Corp. (Second right) HAROLD HOLDEN, Pres., Eastern Corp., and CLARENCE LARSON, V.P. of M & O Paper Co., and, in front of Mr. Larson, ROYCE COX, Chief Forester, Potlatch Forests Inc. (Right) GEORGE CROPPER, Mgr., Rayonier Inc., Shelton, Wash.

themselves to us both financially and in the resulting stand improvement. The success of a thinning project rests upon the access road system. If administrative roads are present or constructed in advance so that the amortization of these roads will not fall on any one or two thinning units a good cost result will obtain and production costs will be competitive with other types of wood used in manufacturing our products.

Rayonier has used two methods of thinning successfully. One operation which could be classed as pre-logging is the removal of the younger age class timber first and thus permit larger trees to remain standing. The second type of thinning is designed to remove the mature timber by crown occupancy pattern from the stand and permit the young growth to remain undisturbed.

A good forestry program requires cooperation within the organization and with outside agencies as well. We, in Rayonier, do our best to cooperate with our neighbors, the various government agencies and leading universities in an effort to improve the condition of Rayonier lands and forestry in general. As an example, each year we have the spring field forestry class of the University of Washington as our guests. In this way these young future foresters have an opportunity to get on-the-ground practical experience while working on our tree farms.

### *The Public-Owned Forests*

Turning again to the map of the Olympic Peninsula, we would like to point out the tremendous acreage held in public ownership. The Forest Service is harvesting the timber on their various working circles in an orderly and wise manner. The Indian Service likewise is conducting contract sales operations on the Indian lands despite the handicap of an individual Indian allottee ownership pattern. To date the State of Washington has sold token volumes of timber from their lands. The annual allowable cut on the school lands will be approximately 80 to 90 million feet annually. This small cut will permit a sustained cut in the school timber. It is my understanding that the state is currently making plans for developing their mature timber stands for the benefit of our school system.

The Olympic National Park contains approximately 1,300 square miles of land on the peninsula. An estimated 900,000 acres, containing over 18 billion feet of timber (equivalent to 36 million cords), are *within* the park, which timber is situated on only a portion of the total acreage. *Most of this timber is over-mature.* I think all of us feel that a National Park within the Olympic Peninsula is a must for the benefit of the communities, the state and the nation, but a serious question develops as to what its proper size should be. To waste such an enormous volume of mature timber is not true conversion.

Rayonier has the utmost confidence in the timber and timber growing potential in western Washington. We will continue to follow the same policy of careful land management and containing research and development of newer techniques in that field that we have followed in the past. In this manner we believe we will keep abreast of practical, scientific methods of forest management. Our ultimate goal is a sustained timber program on our lands —second to none—designed to provide an adequate wood supply to the Rayonier plants.

# APA GROUP VISITS ONTARIO

THE CARAMAT WOODS operation of Marathon Paper Mills of Canada was visited by Lake States Technical Committee members of the American Pulpwood Association Sept. 9-10. They saw how one of the most progressive Canadian companies produces pulpwood in Ontario.

H. R. Palmquist, woodlands manager, Marathon Corp., Rothschild, Wis., was leader.

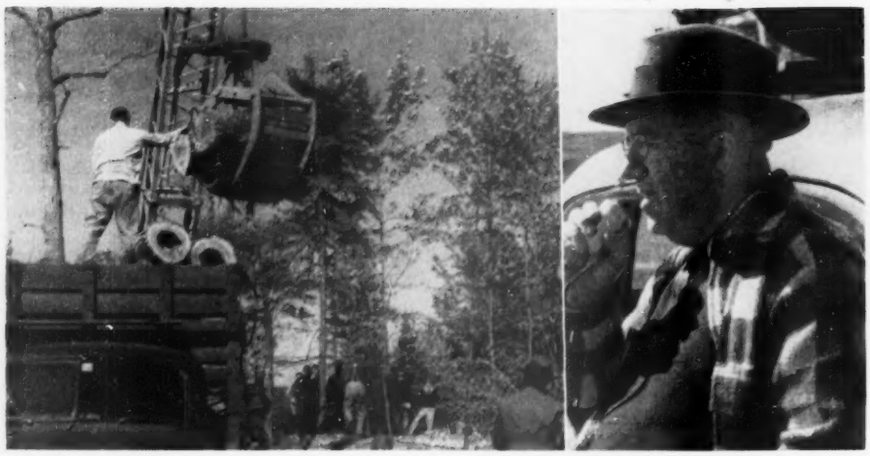
The party motored to Port Arthur and took a special pullman car to Caramat, about 250 miles northeast. Caramat is divisional headquarters as well as a logging camp. After luncheon the group reviewed the company's tree length logging, and showed considerable interest in the company's newest mechanical logging machine, the "Slashmobile." In the tree length logging operation the trees, after being felled, limbed and topped, are yarded into stockpiles. The yarder is a 2-drum winch mounted on a sled with a 40 ft. A-frame.

The "Slashmobile" is used, as might be assumed, in the slashing operation. Here the tree lengths are taken from the stock piles and cut into 100-in. bolts and loaded onto trucks. Older slashers are mounted on sleds, but the new unit is completely re-designed, having many new features and is self-propelled (see picture).

A Vickers VR 180 tractor with Rolls-Royce diesel engine was also on display. This is a new machine recently introduced to west coast woods in British Columbia.

The visitors, guided by Marathon's chief forester George R. Sonley and other staff members, then observed the log bundling system. Here the trees were cut into 100 in. bolts and piled in cord piles in the center of the road. The same yarder as was used for tree length yarding then skidded in the bundles and loaded them on trucks.

AMERICAN PULPWOOD ASSN. Lake States group saw this new machine—Marathon's "Slashmobile"—in operation at Caramat, Ontario in recent field trip. It is a self-propelled unit, taking tree lengths from piles, cutting into 100 in. bolts and loading on trucks. It replaces slashers mounted on sleds and has many new features.



AT ALL-WEATHER ROAD LOCATION, Brown Co. woods visitors watch SCHIELD BANTAM crane equipped with a 1/4 cord grapple with a special grapple positioning device take logs from roadside and load truck. These are hardwood bolts logged-out as part of Brown's "complete utilization" program. WITH MICROPHONE AND LUMBERMAN'S JACKET, Laurence F. Whittemore, President (right), describes some of operations of his company during its Fourth Annual Woods Field Trip.

## Brown Co. Host To 150 on Woods Trip

More than 150 friends and associates of Brown Co., Berlin, N.H., took part in the Fourth Annual Woods Field Trip of the company, Sept. 24. The tour included softwood and hardwood operations in the Parmachenee area of northern Maine, with stops to observe tractor and horse logging operations, softwood landing areas, new wood handling developments, and the new Long Pond garage and headquarters camps established by the company.

President L. F. Whittemore described some of the operations to guests. Pat Herr is Brown's woodlands manager.

Brown is presently utilizing an increasing amount of valuable portions of its wood before the remainder goes to the pulp mills. Higher quality yellow birch and hard maple is being produced for furniture sawlogs. Straighter and sounder spruce and white pine are being saved for dimension lumber and boards. Cores and slabs are utilized as chips.

Along with a higher value per unit volume for these types of products, Brown Co. has inherited some very difficult operational problems.

One problem is sap stain of hardwood logs cut during hot summer months. This requires woods operations through the summer to be carefully scheduled to produce furniture sawlogs equal to what the mill can saw within six weeks of the time trees are cut. Hardwood operations must be located in areas where the logs can be loaded on to trucks and hauled.

Tractor logging operations are easier to adapt to meet these problems than horse logging. In tractor logging, the tree length is skidded to an already existing all-weather road at which point it is bucked into either 4 ft. pulpwood bolts, 8 ft. furniture sawlogs, or both, depending upon quality. The sawlogs can then be loaded directly on to trucks at any time to be hauled to the sawmill.

Weather also has an important influence on Brown's regular pulpwood trucking program. Since it is desirable to keep the trucking fleet operating full time and minimize mill storage problems, Brown now stockpiles some wood on all-weather roads by hauling it during good weather from branch roads which are impassable during wet weather. This type of operation has never been practical in the past because of the high cost of rehandling the wood. With development of a system of sling unloading, where a whole tier of wood (about 1¼ cords) is lifted from the truck at one time, and a steel strapping system to hold the whole tier in one bundle to be reloaded, rehandling costs can be reduced so as to allow this stockpiling of bundled wood for rehauling during periods of bad road conditions.

All trucks hauling 4 ft. pulpwood are equipped with wire rope slings on each tier. This allows sling unloading at the mill where a four-tier load of hardwood pulpwood can be unloaded on to storage piles in seven to eight minutes. Sling unloading is also done when large amounts of softwood are being landed on rivers and lakes.

## New-Type Gantry Crane Developed at Union Bag

A new-type gantry crane has been developed for use in the big 85,000-cord woodyards of Union Bag & Paper Corp., Savannah, Ga. The crane unit, of which two are in operation, employs a rolling undercarriage traveling on rails, on which is mounted a regular Lorain crane. It is used to pull pulpwood from rail cars into a sluiceway.

Union Bag recently installed a water-filled circular flume system, 3,250 feet long, which flows through the woodyard and which floats logs from the storage area to the barking drums or chippers. The new crane, which was developed by Union Bag engineers, is used in conjunction with this flume.

Single rails run along each side of the big sluiceway, and on these rails, straddling the flume, are the two new crane units. A regular Lorain crane, with a four foot wide blade fixed to its boom, is mounted on an undercarriage of steel girders. The whole assembly, powered by the crane unit's diesel engine, moves up and down the flume on the rails.

When strings of pulpwood cars are shunted in on the railroad tracks which parallel the flume, the crane blade is dropped behind the stacked logs and then pulls them forward into the flume. The crane can be pivoted so that it can work cars on either side of the flume. It unloads a car in four or five minutes, and under ideal conditions has been clocked at three. The cranes are also equipped with lights for night operation and carry their own lighting generators for this purpose.

ONE OF TWO NEW WOODYARD CRANES is shown in operation at Union Bag & Paper Corp., Savannah, Ga. The unit's rolling undercarriage, traveling on rails on either side of sluiceway, was designed by Union Bag engineers, and a regular Lorain crane (Thew Shovel Co.) unit mounted on it for pulling pulpwood logs from rail cars into flume.

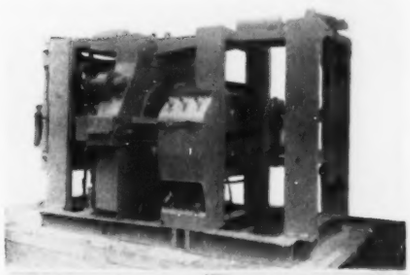
# SODERHAMN

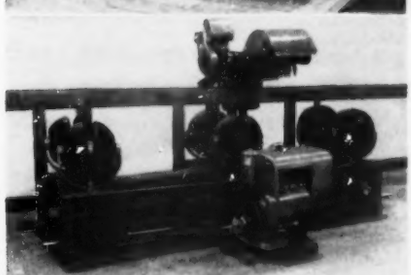
## Modern and Efficient

# BARKERS

## Eliminate Wood Losses

**Illustrated here are our three types of mechanical barkers that have been so widely and favorably publicized by leading lumber journals and paper publications. They operate at very low power cost, require only small initial investment.**





### ANDERSON BARKER

**Pneumatic Type**

(Patent Numbers 2,576,966 and 2,623,558)

Effectively and economically debarks both hardwoods and softwoods up to 120 linear feet per minute. Now in successful operation in South, Northeast and Middle West.

### SODERHAMN D-3 BARKER

(Patent pending)

This new, low cost barker is opening a new field for sawmills cutting 15,000 to 40,000 board feet, enabling them to utilize their wood waste. Now in successful operation in the Southeast and on the West Coast. This unique barker can be part of the log haul of a sawmill. Total H.P. 30. Log diameter range 5" to 36".

### ANDERSON PORTABLE BARKER

(Patent Number 2,623,558)

This revolutionary new portable barker, using only 15 H.P., barks softwoods and hardwoods up to 120 feet a minute. Weighs only 6,600 lbs., including in-and-out feed conveyors.

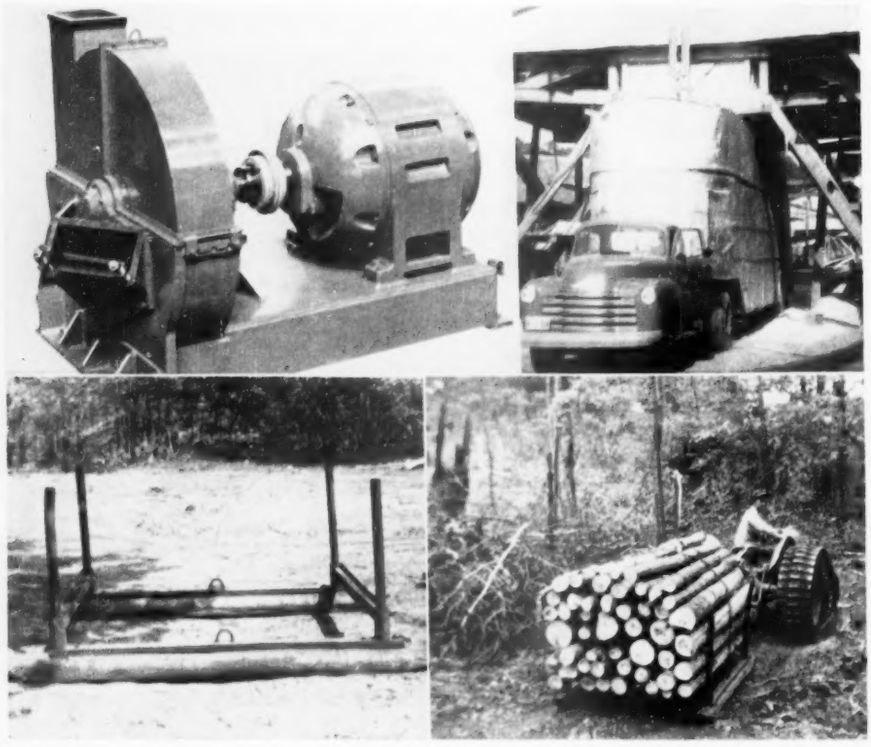
*For specifications and complete information about Soderhamn wood waste recovery equipment, including Anderson Pneumatic and Portable Barkers, Carpenter Barkers, Chippers, Chip Screens, Re-Chippers, and Swedish gang mill equipment, wire, phone or write—*

**SODERHAMN MACHINE MANUFACTURING CO.**

**SODERHAMN, SWEDEN SINCE 1864 TALLADEGA, ALABAMA**

CANADIAN REPRESENTATIVES: West Coast: Canadian Sumner Iron Works, Vancouver, B.C.; East Coast: Forano Limited, Montreal, Canada

# NEW AND PROVEN PULPWOOD EQUIPMENT



PULPWOOD HANDLING AND PRODUCTION EQUIPMENT mentioned in accompanying notes: Top left: Hansel Slab Barker. Top right: Dargan Sawmill Waste Trailer. Two lower views are of Keelean Pulpwood Dray.

*(Further inquiries regarding equipment mentioned below welcomed—address* PULP & PAPER, *1791 Howard St., Chicago 26, Ill.)*

*LORAIN PULPWOOD RAKE:* For more than a year a Southern company has been unloading rack cars of pulpwood into a woodyard flume with a Lorain rake. Can be used on any ¾ yard, Lorain TL-25 crawler or rubber-tired crane. Rake and boom attachment can reach 31 feet and unload a rack car averaging 17 cords in 10 to 12 minutes. Rake has horizontal pulling action toward machine which provides a positive and precise placement of the 3 x 5-ft. wood paddle by the operator. Performance is best in yards having flumes or conveyors built with little clearance between car and conveyor.

° ° °

*HANSEL SLAB CHIPPER:* Has a swept-back knife setting, known as Dunbar Patent, which has been adopted as an important design feature, and which gives slicing instead of chopping action. The manufacturer claims chip uniformity; high rotative speed for high chip production; freedom from vibration; low maintenance; and low power consumption. For stationary chippers, one spout design is recommended for chipping sawmill waste since it will accept and align short pieces. Portable chippers are available in 48-in. size for mounting on a single axle, diesel powered trailer. This has a speed of 900 rpm, a horizontal feed spout measuring 8 x 12 in., an option of 4 or 6 knives, is equipped with a 10-in. flexible steel reinforced chip disposal hose, 30 ft. long.

° ° °

*KEELEAN-PULPWOOD DRAY:* Used to reduce handling and skidding costs on aspen pulpwood operations in Lower Peninsula of Michigan. Saving comes from elimination of customary cutters-strip piles. The cutters place pulpwood bolts onto drays which have been spotted on their strips. Dray is light, and one man can drag it a short distance to convenient loading locations. Side stakes and bunks lift apart for ease in loading and transporting to new locations and dray runners fold together if necessary to save space. Dray has a capacity of .75 to one cord, 100 in. wood. One Ferguson 30 hp wheeled tractor, equipped with Bombardier Tractor Track attachments, will skid and spot for loading 30 dray loads of 100-in. pulpwood on these operations in a 10 hour day at average skidding distance of ⅓ mile and dray load average of .8 cords.

° ° °

*SAWMILL WASTE TRAILER:* Dargan Lumber Co., Conway, S.C., has been hauling and selling sawmill waste in form of hogged fuel to pulp mill 40 miles away. Seven specially redesigned trailers are pulled from one location to other by two truck-tractor units. Trailers are loaded at sawmill by opening doors to overhead storage bin and are unloaded at the pulp mill by running conveyor belts installed in each trailer. Power for these belts is provided by permanently-installed electric motor coupled to head pulley of each trailer by detachable shaft with universal joints. Monthly average of hogged fuel sold is 900 tons with a moisture content of 16.5% from planing and sawmill waste. Lumber company has installed a Carthage slab chipper and a Soderharm D-3 log barker to make chips for pulp rather than hogging for fuel. The trailers will work for both operations.

*(Above notes are from American Pulpwood Association Equipment Handbook.)*

° ° °

*McCULLOCH CHAIN SAW:* Low-priced, weighing only 20 lbs. complete with blade and chain. Saw is designed for logging in medium and small timber; able to fell trees within one inch of ground. Light weight and full power make it seemingly valuable for pulp logging, limbing and bucking. Although selling for $225, lowest price of McCulloch saws, it has automatic clutch, automatic rewind starter, all-gear transmission, enclosed flywheel, air filter, anti-friction bearings, manual chain oiler, plated blade, handlebars, muffler, and waterproof encased coil. Chain is narrow-kerf Saber-tooth in either 12 or 16-inch blade, and power is from light weight gasoline engine.

## Pulpwood section
**PRODUCTION • MANAGEMENT**

### Survey Shows 50 Million Trees To Be Planted in Lake States

A forest management inventory just completed by the American Pulpwood Assn. shows that mills in Michigan, Minnesota and Wisconsin will plant five million trees a year on their own lands during the next decade for a complete planting of 50 million trees on their 50,300 acres of timber holdings. The report was made by Bruce G. Buell, Northern Paper Mills, Green Bay, Wis., chairman of the technical committee in charge of the survey for the Lake States area.

Willard S. Bromley, executive secretary of APA, says that similar surveys for the other pulpwood producing regions in the United States have been made although the results are still to be compiled. In the Lake States survey, Mr. Bromley said that the reporting firms account for 90% of the pulpwood consumption in the area, and that the planting projects outlined will more than double company-owned acreage on which trees have been planted since 1926.

Eleven of 34 reporting mills extend regular woodland management aid to small owners of forestland. These companies last year distributed 914,000 trees to non-industrial neighbors, at no charge, the survey revealed. A striking increase in number of forestry personnel employed in woodlands management was shown—from 50 employes in 15 companies in 1945 to 121 in 26 companies.

***FOR NEPCO AND LINK-BELT***

**ROBERT A. PETRY (left), appointed Asst. Mgr. of Woodlands Operation for Nekoosa-Edwards Paper Co. Graduate forester from U. of California, he joined Nepco in 1940. He served with army engineers in Alaska and the Pacific in the war. He was Woods Supt. in Canada for Nepco and recently in charge of land acquisition. He works under George Kilp, Woodlands Mgr.**

**GORDON W. ROWARD (right) new Assistant Sales Manager of Link-Belt Speeder Corp., Cedar Rapids, Ia., manufacturers of cranes, shovels, etc., used in pulpwood production and other mill activities. He has been Dist. Rep. in Pacific Northwest and Midwest. He served in the Marines in the war as Major.**

### Swedish Pulp

The *Swedish Paper Journal* says Swedish pulp exports to U.S. will total 300,000 tons this year as against less than 200,000 each of the past two years. Recent first sales this year to Argentina totalled over 40,000.

One of the largest manufacturers of wallboard and insulating board was building a giant new plant in the deep South. They wanted the same smooth pulpwood handling that speeds production at their Virginia plant. So they called in the same engineering-production team — Jeffrey.

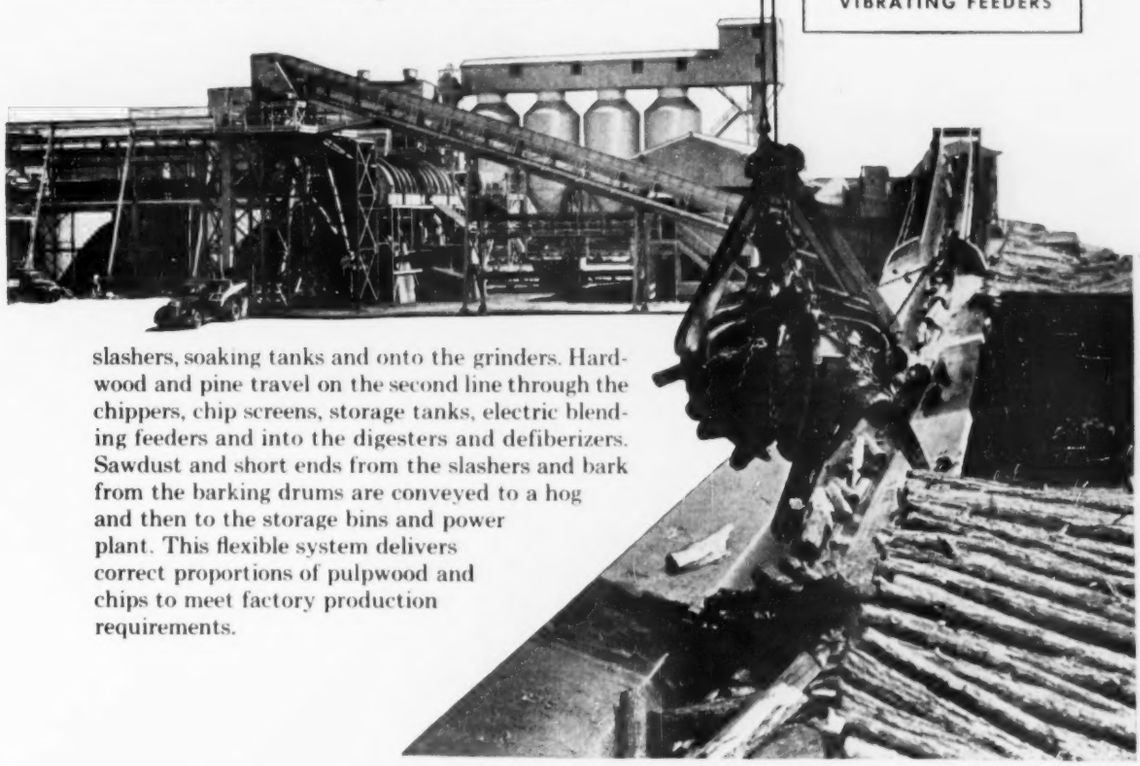
# PULP STORY

Jeffrey's conveyor specialists worked with the client's engineers to design two separate lines which handle pine and hardwoods from railroad cars through a dozen processes to the grinders and defiberizers.

An orange-peel grapple drops pine from the cars or storage piles onto the yard conveyors. The first line carries it through the barking drum, slashers, soaking tanks and onto the grinders. Hardwood and pine travel on the second line through the chippers, chip screens, storage tanks, electric blending feeders and into the digesters and defiberizers. Sawdust and short ends from the slashers and bark from the barking drums are conveyed to a hog and then to the storage bins and power plant. This flexible system delivers correct proportions of pulpwood and chips to meet factory production requirements.

**TYPES OF JEFFREY EQUIPMENT USED IN THIS INSTALLATION**

BUCKETS • CHAINS
SPIRALS • IDLERS
SPROCKETS
SPLINTER GRINDER
APRON FEEDERS
TRACK HOPPER
VIBRATING FEEDERS



THE JEFFREY MANUFACTURING CO.

ESTABLISHED 1877

Columbus 16, Ohio

*sales offices and distributors in principal cities*

PLANTS IN CANADA, ENGLAND, SOUTH AFRICA

**IF IT'S MINED, PROCESSED OR MOVED**
***. . .IT'S A JOB FOR JEFFREY!***

# MACHINE TENDER Munchausen Stories

PERIODICALLY, DURING past few years, we have published these Machinetender Munchausen stories—submitted by readers of PULP & PAPER.

There's a $5 award goes to the author of a published story. So, try your hand! Being a Munchausen-type story, these are "tall tales" connected with pulp and paper. Maybe you can make up a whopper yourself!

Send your story to PULP & PAPER, 1791 Howard St., Chicago 26, Ill.

Winner this month is S. V. Sergeant, a "repeater," of Bowater's Thames Paper Mills Ltd., in Gravesend, England, and secretary of the British "Tappi." It follows:

### By S. V. Sergeant

This tale concerns Mill Fireman Noakes,
Inordinately fond of jokes
That leave his victims in a plight
Presenting quite an awful sight,
Bedaubed with paint from foot to eye
Or plastered thick with custard pie
Through opening doors that bear a trap
All unsuspecting when mishap
Descends upon them with a clout.
My word, they don't 'arf 'oller out!
With avalanche of beater stock
Tom gives one workmate quite a shock.
Another, to his keen dismay,
Is quite immersed in china clay.
A third exclaims "You beggar! I'm
From head to foot in headbox slime."
A fourth with sad despairing cry
Slips headlong in magenta dye.
Another yet, with dripping clothes,
Blames Thomas and his carefree hose.
All threaten to avenge misdeed
But Thomas pays no slightest heed.
One day his victims all rejoiced
Aloud for tricky Tom was hoist
At last upon his own petard
Just through a blinkin' pound o' lard.
He climbed the water tower anew
The pulpyard stacks around to view
But, mounting slowly, lagged behind
To try a trick he had in mind
To expedite his friend's descent
By greasing every stair. Content,
He reached the very topmost tread
And smeared it well, when to his dread
He heard the siren's mournful call
And turned and ran, forgetting all
The careful preparation he
Had made. His swift velocity
As he went spinning round and round
The staircase brought him to the ground
In record time, thanks to the grease
But to his horror didn't cease.
He corkscrewed down and down until
He thought he would be really ill,
When just as he felt nearly sick
He broke the surface with a click.
"Where am I?" asked he with a smile
A voice replied "On Coral Isle.
"For butting in you've such a nerve
"You'll have to be the chief's hors-d'oeuvre!"
So ended Tommy in the pot
Such jokers well deserve it hot.
I know you simply must agree
For I've been one myself, you see.



**ROLAND FORTIER, newly appointed Pulp Mill Superintendent for expanding St. Mary's Kraft Corp., St. Mary's, Georgia.**

## Roland Fortier in South As St. Mary's Pulp Supt.

Roland Fortier, who started in the industry in New England, then moved to Midwest and Far West, now has moved to the South where he is the new pulp mill superintendent for the expanding St. Mary's Kraft Corp., of St. Mary's, Ga.

Mr. Fortier goes South after serving as technical director and more recently as kraft pulp superintendent for the Potlatch Forests Inc., Lewiston, Ida. He went there in 1950. His last experience there was concerned with assisting in the recent startup of its chlorine dioxide plant and bleaching addition there.

Mr. Fortier is a class of 1929 graduate of the University of New Hampshire in analytical chemistry. He started in the industry in Brown Co.'s operations at Berlin, N. H. This is also the home state of the Gilman brothers, who own the St. Mary's mill and have Northern paper mills there and in the Mid-Atlantic.

## NEW PRESIDENT OF PAPER CO.

FRANK H. BROWN, Pres. of new Kitimat Pulp & Paper Co., partnership of Powell River Co. and Aluminum Co. of Canada, planning mill at Kitimat, B.C. Resident of Vancouver, he was Govt. Financial Advisor in war and is with several industries.

### Kitimat Pulp & Paper Is Incorporated

Kitimat Pulp & Paper Co. has been incorporated in British Columbia with a nominal capitalization, and its name formally adopted by Hecate Development Ltd., the organization which represents Powell River Co. and the Aluminum Co. of Canada in planning for a newsprint-sulfate pulp project in northwestern British Columbia.

Application for a forest management license was made by Hecate Development, and when granted Kitimat Pulp & Paper Co. will take over as the operating unit and authorize detailed survey and planning for the mill, which will have an estimated capacity of 400 to 500 tons of newsprint and 200 tons sulfate pulp daily. If normal procedure is followed, the forest program will not be fully adopted for a year or so.

As the proposed mill will be at Kitimat, site of Aluminium Co. of Canada's new smelter, the company wished to protect the Kitimat name for its own use.

### Officers of St. Helens

Officers have been elected by directors of St. Helens Pulp & Paper Co., of which Crown Zellerbach now owns more than 99 percent of voting stock.

President is F. N. Youngman, vice president and director, Crown Zellerbach Corp.; R. J. Schadt is a vice president and also resident manager of the mill; A. B. Layton, vice president, also vice president, CZ; A. L. Bennett, vice president, and also treasurer, CZ; C. C. Eckert, treasurer (office manager, St. Helens Pulp & Paper Co.), and C. E. Davidson, secretary (St. Helens Pulp & Paper Co. attorney).

### Crown Z Keeps Track of Employes

When Crown Zellerbach Corp. honored 259 employes of its Camas, Wash. division with dinner, entertainment and service pins, in September, Vice Pres. R. O. Hunt, told the group of CZ's system for "keeping track" of its employes. This personnel program facilitates the appropriate filling of vacancies with qualified personnel as they occur and provides universal opportunity for advancement of employes throughout the whole organization.

Seven received 35 year pins. R. A. Dupuis, assistant resident manager, presided and Res. Mgr. G. H. Gallaway extended welcome.

# COAST ENGINEERING MEETING

## "AUTOMATIC" WATER PLANT—PICKUP FELT—MODERNIZATION

MODERNIZATION IN FOUR MILLS of the Pacific Northwest was subject matter of four practical operations papers given at the Pacific Coast's Engineering Conference in Tacoma, Wash., Sept. 25:

1. What is called the first virtually "completely" automatic water treatment plant in the industry, newly installed by Northwest Filter Co. at Weyerhaeuser's kraft pulp mill, started up in late August in Everett, Wash. All the human element is needed for in this plant is to pushbutton a start-up and occasional other service on only one of three shifts.

2. The patented Beloit vacuum pickup and transfer on the No. 2 newsprint machine at Crown Zellerbach's Port Angeles mill, speeding production to 1,625 fpm. This was illustrated and fully described in PULP & PAPER's Apr. 1953 issue.

3. Savings in fuel achieved at Publishers' Paper Co., Oregon City, in a bark and oil burning water-cooled Springfield Boiler code boiler, replacing a Stirling type dutch oven boiler. This also had been described in an extensive article in PULP & PAPER's Feb. 1952 issue, page 84.

4. A review of modernization of Everett Pulp & Paper Co., through woodroom, pulp mill, bleach plant, screening, machines, power and recovery and de-ink plant, upgrading as well as increasing output. This is now a division of Simpson Logging Co.

The Coast Tappi section sponsored the meeting and St. Regis of Tacoma was host mill. Nearly 200 attended.

Dinner speech was the "swan song" of Col. Albert H. Hooker, now a Tacoma councilman and retired from active work with Hooker Electrochemical Co., through which he had long and intimate association with the developing pulp industry of the Pacific Northwest.

T. C. Smith of the Port Angeles Division of Crown Zellerbach, presented the paper on the vacuum pickup and transfer. Mr. Smith told how this application had speeded production to 1625 fpm from the previous average of 1550 fpm. The transfer was installed in only about 1½ days. The announcement of the improvement appears on pages 50 and 52 in the April 1953 issue of PULP & PAPER with a photograph and drawing.

### *Unique Filtration Plant*

Telling about one of the newest installations in the industry—the filter plant—J. Rodger Sheridan, Northwest Filter Co., Seattle, said, "This plant embodies several new refinements in treatment of water, and it makes a closer approach to the ultimate ideal of a completely automatic plant which takes care of itself and requires little human attention for its operation."

Mr. Sheridan is affiliated in Northwest Filter with William Gibson, veteran of the Northwest pulp industry.

**PARTICIPANTS IN PACIFIC COAST Engineering Conference and Seminars:**
**Top row, l to r: LEE HILL, Plant Engineer, Sulfite Mill, Weyerhaeuser, Everett, Wash., Moderator of Eng. Conference; T. C. SMITH, Port Angeles Div., Crown Zellerbach, who discussed pickup felt; J. R. SHERIDAN, Mgr., Northwest Filter Co., told of new type water plant; CHAS. W. (BILL) CASSELL, Chief Engineer, Everett Pulp & Paper, told of improvements there; ERIC C. CRAIG, Chief Steam Engineer, Publishers' Paper Co., talked on new code boiler.**
**Lower row, l to r: DR. EMIL HEUSER, retired from Institute, now living at La Jolla, Calif., and DR. LOUIS E. WISE, Research Associate, Institute of Paper Chemistry, who discussed cellulose and hemicelluloses, respectively, at the Portland, Ore., and Seattle Seminars; DR. JOSEPH McCARTHY, Univ. of Wash., who arranged the Seminars; COL. ALBERT H. HOOKER, retired executive of Hooker Electrochemical, dinner speaker at Engineering Conference which was sandwiched between the Seminars, and FRED J. WELEBER, Tech. Director, Publishers' Paper Co., who is Coast Tappi Chairman, which organization sponsored both events.**

The Weyerhaeuser plant uses the conventional method for water treatment, alum for coagulation and settling, with the addition of an alkali, usually lime, to maintain the pH at the proper value to obtain optimum floc. After coagulating and settling, the water is filtered through a sand bed, and is ready for use. Several refinements have been included, such as the two settling basins which are circular in shape, with the coagulating chambers located in the center. He said this was worked out between Northwest Filter and Weyerhaeuser engineers and that it was carefully "lab-checked" for performance.

He explained that in the Weyerhaeuser plant, the mixing and coagulating are accomplished by hydraulic mass mixing and coagulating, without preparatory mechanical devices. This method is advantageous, Mr. Sheridan said, because it reduces initial plant cost, and because no mechanical maintenance is required.

The control system arrangement is designed to be so completely automatic, so that it can be unattended for two shifts out of three. The objective was a control system so arranged that the principal duties of a day shift operator would be to check results, make water tests and set control points, and recharge chemical feed hoppers as required. This system incorporates an automatic method of backwashing the filters, when loss of head on either one of two filters rises to an adjustable pre-set point on recorders.

"The control system represents advance towards the ultimate goal of an unattended self-operating plant, with elimination of much routine drudgery and operating expense," said Mr. Sheridan. "A similar plant of larger size is now being designed and furnished for installation in Alaska."

### *Hog Fuel and Oil for Firing*

The chief steam engineer for the Publishers' Paper Co., Eric R. Craig, delivered the paper "Operating a Base Load Modern Boiler on Variable Ratios of Bark Refuse and Fuel Oil." Mr. Craig, who has been previously with mills in British Columbia and Washington, told of problems involved when it was decided to switch over from straight oil to a combination of hog fuel and oil for firing the power boiler.

"The basic requirement," Mr. Craig said, "was for a cambination unit to generate approximately 80,000 pph and be capable of burning all wood refuse from a hydraulic log barking plant with capacity of 30 cords per hour."

"With no provision for fuel storage, it was imperative that the boiler furnace be capable of handling variable quantities of fuel delivered by conveyor plus varying

# to SOLVE PULPING PROBLEMS economically

BOWATERS SOUTHERN PAPER CORP. SELECTS

## SPROUT-WALDRON 36-2 REFINERS

## $50 Million Paper Mill Contract Let

A general contract for the construction of an integrated newsprint and sulphate pulp mill at Calhoun, Tenn., was let here yesterday by Bowaters Southern Paper Corporation to Fraser, Brace and Co., New York; Turner Construction Co., New York, and Roane Anderson of Tennessee, acting jointly.

The contract was let by Bowaters' representatives in the office of J. E. Sirrine Co., consulting engineers to Bowaters Southern Paper Corporation. The Sirrine firm was also engineers for the Coosa River co-operative newsprint mill in Alabama which is now in production.

Grading at the site, which is be... tween Chattanooga and ...

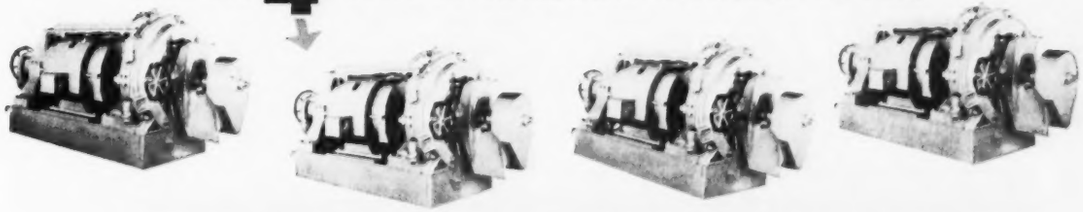
*Greenville S. C. News*
*August 7, 1952*

**For:**

- ✓ HIGH PULP QUALITY
- ✓ HIGH CAPACITY
- ✓ FLEXIBILITY OF OPERATION
- ✓ RUGGED CONSTRUCTION
- ✓ LOW MAINTENANCE

**THIS NEWSPRINT AND KRAFT PULP MILL**

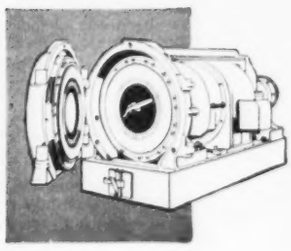
will use **4** SPROUT-WALDRON REFINERS to Pulp



**GROUNDWOOD TAILINGS AND KRAFT REJECTS**

Have you a pulping problem? Send us the details for a careful analysis and recommendations. Write Sprout-Waldron & Co., Inc., 32 Logan Street, Muncy, Pennsylvania.

**S W**



**SPROUT-WALDRON**

**PULP REFINERS**

259

fuel moisture content ranging from 50 percent to over 70 percent. This, in conjunction with wood species variations from hemlock through cottonwood, alder, red fir, white fir, and punky old spruce, necessitated a radical change in furnace design from the dutch-oven type."

Mr. Craig said savings in fuel cost due to the ability of this water-cooled furnace installation to economically utilize this type of low heat value waste fuel is demonstrating a major portion of financial return on the invested capital.

***Everett Modernization***

Charles W. (Bill) Cassell, chief engineer for Everett Pulp & Paper, related the story of its extensive modernization program. He is a graduate of Purdue and the Institute of Paper Chemistry. Everett Pulp & Paper produces a wide variety of bond and book papers averaging 100 tons daily. P. R. Sandwell & Co., Vancouver, B.C., and Seattle, were consulting engineers; construction and installation was by Howard S. Wright & Co., Seattle.

This pioneer western producer brought machinery up to date in many departments and extensively revamped physical plant and electrical system. The improvements Mr. Cassell described included: Nos. 1, 2 and 3 Pusey & Jones machines, woodroom, soda (modified) pulp mill, screen room, bleach plant, power and recovery, de-ink plant.

A Nicholson mechanical barker was installed and this has proven successful; one result of the modernization is the mill can now receive and process several different types of material at one time, Mr. Cassell said. Production up 20 percent and quality has noticeably improved.

## Heuser and Wise Hold Seminars on West Coast

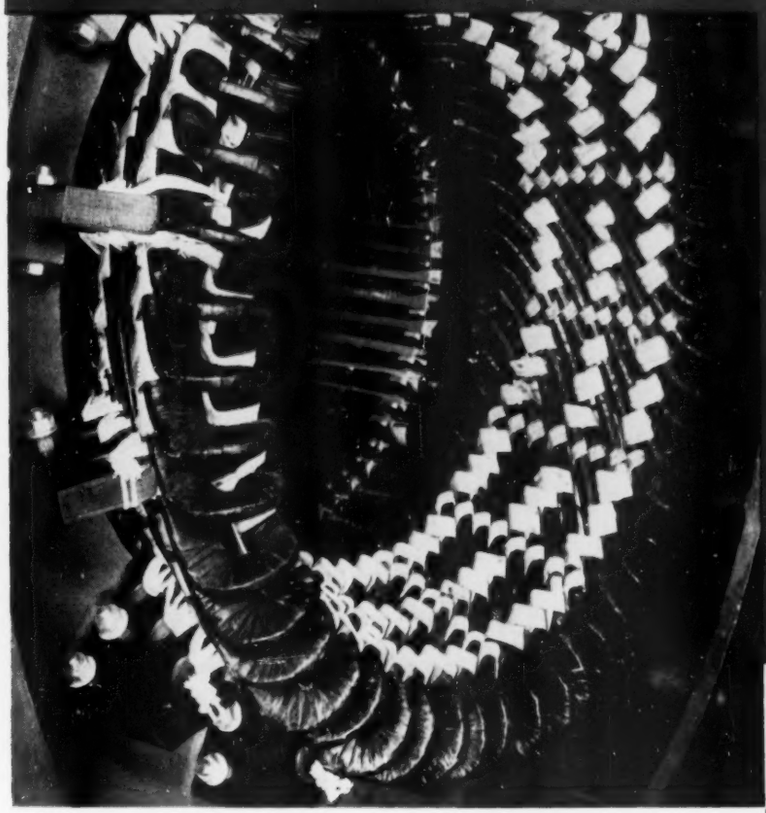
Dr. Emil Heuser, now of La Jolla, Calif., and formerly of the Institute of Paper Chemistry, and Dr. Louis E. Wise, of the Institute, were the headliners in the 7th annual seminars held for two days each in Portland, Ore., and Seattle, Wash., in late September under sponsorship of Pacific Coast TAPPI, with young technicians from all coast mills welcomed at a nominal seminar fee of $10 each to defray expenses.

Dr. Wise, who has served as professor at New York State College of Forestry, at Rollins College, and at present is research associate at the Institute, discussed the isolation and properties of hemicelluloses of wood, stressing some of the less familiar components which have been studied recently. He gave a detailed account of the relationship between the kind and amount of hemicellulose in a pulp and the properties of the resultant paper. Finally, there was a discussion of the economic importance of hemicelluloses and some of the problems in this field, awaiting further study.

Dr. Heuser, who served as a professor at Universities of Darmstadt, Berlin, and at the Institute of Paper Chemistry, and as director of research of Canadian International Paper Co., discussed wood and cotton cellulose. Starting with the visible fiber, he proceeded to finer and finer detail, finishing with the structure of cellulose molecule components. Particular attention was given to the sleeve-like outer membrane of the fiber, an unreactive armor-like protection for the reactive cellulose underneath. He pointed out that breaking up of this barrier is an important aspect of commercial beating and of preparing a reactive dissolving pulp.

At Seattle, 56 young personnel from mills attended. At Portland, the registration totalled 37.

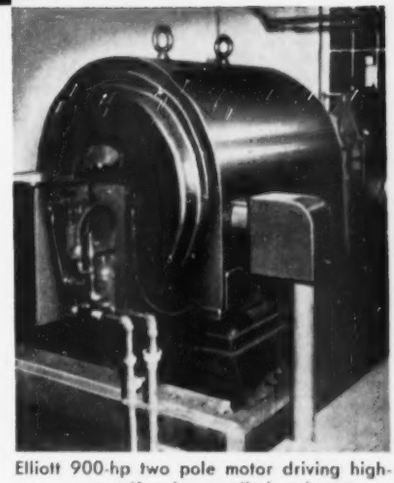
# ELLIOTT CONSTRUCTION PRINCIPLES



## mean longer life for motors on frequent starting service

You're looking inside a big Elliott two-pole induction motor—typical of those serving the industry on hydraulic barking pump drives and other tough installations. Note the extensive lashing used to restrain the movements of the stator coil end turns during starting. Fiberglas tape holds canvas phenolic blocks between adjacent coils in parallel rows which prevents coils within each phase group from pulling together during starting. This blocking also achieves an arch binding effect to restrict the coil phase groups from separating under starting stresses. The upper and lower portion of the coil end turns are lashed with Fiberglas cord to canvas phenolic blocks that are bolted to the frame to prevent any movement during starting.

Construction standards like this keep Elliott motor performance high. Ask your local Elliott representative for bulletins on the motor you need or write Elliott Company, Ridgway Division, Ridgway, Pa.



Elliott 900-hp two pole motor driving high-pressure centrifugal pump discharging at over 1300 psi, in a new pulp mill in the Northwest. Service requires an average of four starts per eight-hour shift.

Elliott FABRI-STEEL

**ELLIOTT Company**

***RIDGWAY DIVISION***

FOR MOTORS 1-200 HP. CROCKER WHEELER DIV. AMPERE, N. J.

B3-16

# NORTHWESTERN SUPERINTENDENTS MEET

***OFFICERS AND TRUSTEES***

**ABOVE (l to r): MYLES W. REIF, Vice Pres. and Gen. Mgr., Blandin Paper Co., newly elected Chairman of the Northwestern Supts. Division; HAROLD SKINNER, Pulp Supt., Rothschild Div. of Marathon, and RICHARD NUGENT, in charge of Planning, Nekoosa-Edwards Paper Co., both elected new Trustees of the Division.**

**Below (l to r): GUS K. KLAUS, Converting Supt., Northern Paper Div. of Marathon, elected First Vice Chairman of Northwestern Supts.; JOHN A. McPHERSON, Asst. Mgr., Mosinee Paper Mills, elected Second Vice Chairman, and ROBERT J. GILMER, Supt., National Container Corp. of Mich., elected Secretary-Treasurer.**

Attendance of over 300 at the Fall meeting of the Northwestern Division of the Superintendents was believed a new record for that end-of-year event of the group, held in mid-September at the Wausau hotel in Wausau, Wis. Myles Reif, now a vice president as well as general manager at Blandin Paper Co., Grand Rapids, Minn., moved up to the chairmanship and other officers advanced, with Bob Gilmer, from National Container, Ontanogan, Mich., who did yeoman service two years ago at the Lake Gogebic meeting becoming the new bottom man on the "totem pole."

Chairman Clark Everest of Marathon outlined a bright future for the industry.

Delegates were given a tour of the expanded plant of D. J. Murray Mfg. Co., which has added considerably to its equipment items for pulp and paper under presidency of Arnold Plier. Retiring chairman, Larry Murtfeldt, pulp superintendent, Consolidated Water Power & Paper, Wisconsin Rapids, reported on the Atlanta national convention.

High peak of interest in the industry in pulp cleaning and new cleaning equipment was attested by attendance of 45 mill operators and others at that session. The broke handling methods session also was well attended.

*HOWARD D. GERRING* is new manager of International Paper Co.'s Pure-Pak milk container plant in Kalamazoo.

A 31-foot digester loaded for shipment to a southern paper manufacturer.

# Ordering Digesters?

## Send your specifications to NEWPORT NEWS

Whether carbon or alloyed steel, Stainless, high nickel alloys or clad...

Whatever your specifications call for ...and whatever the size of components ...Newport News fabricates each part to completely answer your demands.

In vast steel fabricating shops, Newport News craftsmen fulfill your orders not only with specialized production techniques, but with utmost skill and experience acquired through construction of numerous digesters.

Modern radiographing apparatus and stress-relieving furnaces, flame cutting machines and automatic welders, along with many special purpose machines contribute to the excellence and speed of Newport News fabrication.

Send us your inquiries. Take advantage of the high integration of skill and production facilities at Newport News... for it assures you of equipment easy to install and economical in performance. Write us today for your copy of *"Facilities and Products."*

**NEWPORT NEWS** **Shipbuilding and Drydock Company**
***Newport News, Virginia***

## News and Notes from ▣ ▣ ▣

# EQUIPMENT AND SUPPLY COMPANIES

**FOR CLEAVER-BROOKS CO.**

**ELMER H. WEGNER (left) formerly acting Works Manager, has been appointed Gen. Mgr. of Mfg. for Cleaver-Brooks Co., Milwaukee, manufacturers of boilers, distillation equipment, burners, heating equipment and evaporators. Mr. Wegner came to Cleaver-Brooks this year as Director of Purchases, from 25 years with Ladish Co. in this same capacity.**

**GLENN W. LEUPOLD (right) is the new Works Manager at Cleaver-Brooks. He will be responsible for vessels and fabrications of all classes. Mr. Leupold was formerly with Allis-Chalmers, A. O. Smith Corp. and recently was Works Manager of two plants for Heil Co.**

*AMERICAN CYANAMID CO.*'s subsidiary Chemical Construction Corp. is building a new titanium dioxide pigments plant at Savannah, Ga. It will be operated by the Calco Chemical Division.

*LINK-BELT P.I.V.* (positive, infinitely variable) speed drives such as are used on the new differential paper machine drives are now available in 20 and 25 hp applications. Full details are available in Folder No. 2374 available from Link-Belt Co., 307 No. Michigan Ave., Chicago 1.

*COCHRANE CORP.*, 17th below Allegheny Ave., Phila. 32, Pa., may be written for its new Publicatior. No. 5001-A, a 24-pager on its solids contact reactor for clarifying and/or lime softening of water.

*LODDING ENGINEERING CORP.*, Worcester, Mass., has expanded its research facilities and development staff for pulp and paper. F. H. Goyette, chief engineer since 1936, is in charge. John V. Delaney is sales engineer to coordinate activities.

*GENERAL ELECTRIC* has issued a 12-page bulletin on d-c crane drive equipment. Copies are available by writing the company at Schenectady 5, N. Y.

*AMERICAN CYANAMID*'s 24-page booklet "Cyanamid—Your Partner in Papermaking"—available by writing the company's Paper Chemicals Dept., 30 Rockefeller Pl., New York 20, N. Y.

*EMERSON MFG. CO.*, Lawrence, Mass., has developed a magnetic trap for pipe line service in separating junk material from pulp stock. The new product couples the principle of the trap with magnetic separation, without restricting the flow of stock. The design is such as to throw tramp metal at the magnetic plates perpendicular to the face. The stock is spread out over an area four times larger than the pipe, thus affording longer opportunity for the magnets.

*JOHNS-MANVILLE*, 22 E. 40th St., New York 16, has made available an 8-page catalog entitled: "J-M Products for the Process Industries" describing insulations, refractories, Transite pipe, packings and gaskets, and metal raschig rings.

*CHEMIPULP PROCESS INC.*, Watertown, N. Y., offers free a new edition of "Chemipulp Sulphite Mill Operation," its 235-page book, first published in 1939, discussing development of the sulfite process from wood preparation through the digester and recovery systems. Changes include descriptions of the spray type SO2 gas cooler; fortifying system; reversible milk of lime absorption towers; independent recovery system, and Chemipulp chip distributer and the digester circulation.

*E. D. JONES & SONS CO.*, Pittsfield, Mass., has announced two new pieces of stock preparation equipment and a new free edition of "*A Study of the Beater*," by Samuel Milne. The equipment includes a conical refiner called the Jones "Stockmaster;" said to produce intensive beating action with little or no cutting, and a laboratory beating unit intended to produce commercial results on a small scale.

*ALBANY FELT CO.*, Albany, N. Y., will have a new mechanical and physical research laboratory ready late in 1953, according to Lewis R. Parker, executive vice president. Projects scheduled for development include synthetic fibers in felts, chemical treatments, etc.

*MINNEAPOLIS-HONEYWELL REGULATOR CO.*, Industrial Div., Philadelphia 44, Pa., has published a special alphabetical index of more than 300 technical case histories and general information articles on industrial instrumentation covering all major industries. The index can be obtained by writing to the above address.

### Chemical Linings Expands Field Service

Chemical Linings, Inc. of Watertown, N.Y., has announced appointment of Francis E. Penney to be supervising engineer for field construction operations. This is a part of the current Chemical Linings expansion program to provide more extensive service in the field of corrosion resistant linings and vessel construction.

Mr. Penney is a 1934 civil engineering graduate of Purdue. After service in army engineers in the European Theater, he joined St. Regis Paper, Oswego, N.Y., as construction engineer in 1948, and remained there when Marathon purchased it.

# IF IT'S A STARCH PROBLEM

## Put It Up To...


**Let Our Paper Department Experts Give You Valuable Aid On.....**

1. TUB AND COATING STARCHES
2. TAPIOCA FLOURS
3. CONVERTED POTATO STARCHES
4. LAMINATING ADHESIVES
5. MANNOGAL (Mannan-Galactan) PRODUCTS
6. GUM KARAYA AND OTHER NATURAL GUMS
7. AMIZYME (the better starch converting enzyme)

Morningstar's modern laboratory and manufacturing facilities are now giving far more effective aid to the Paper Industry . . Our Natural Gum Department (formerly Innis Speiden) is coordinated with the Paper Department in this field. Ask for suggestions, ideas, samples and cost estimates on your needs. Get all the advantages which only MNI's extensive experience and facilities can give.

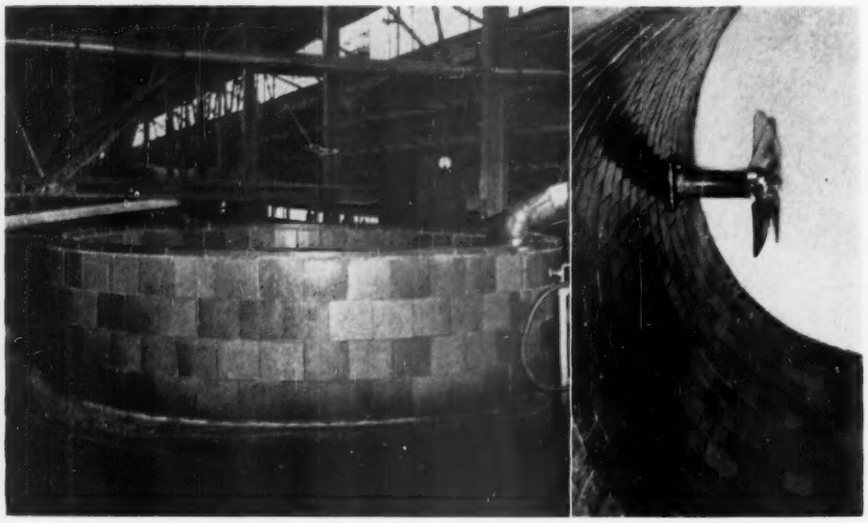
**MORNINGSTAR, NICOL, INC.**

***Scientific Starch, Dextrine and Natural Gum Service***

**630 West 51st Street, New York 19, N. Y. • Phone: COlumbus 5-2860**
**1770 Canalport Avenue, Chicago 16, Illinois • Phone: CAnal 6-2219**

*Morningstar Scientific Starch, Dextrine and Natural Gum Service is available through all sales and service offices of Paisley Products, Inc., Division of Morningstar, Nicol, Inc., which are located in principal cities.*

# COLUMBIA RIVER MILLS UPGRADING



COLUMBIA RIVER PAPER MILLS (sulfite pulp and paper), Vancouver, Wash., through recent modernization of beater room stock and mixing chests, has improved quality and cleanliness of its paper products and bettered operating conditions.

Tile mixing and machine chests replaced beaters and horizontal wood stock chests supplying Nos. 1 and 2 machines. Round vertical chests, selected in preference to other types in order to save floor space, are set on mezzanine floor behind and above machine room floor. The chest foundations are even with the machine room floor and chests extend 40 in. above floor of beater room.

**AT COLUMBIA RIVER PAPER MILLS, view at left shows one of two Stebbins Engineering Semtile machine chests, newly installed at the Vancouver, Wash., sulfite pulp and paper mill. At right—Interior of Stebbins tile mixing chest, equipped with Brinkley agitator.**

Each of the two machines now has two 9½ ft. inside diameter mixing chests built with common wall and positioned with their common diameter on a diagonal between opposite corners of existing building columns and main floor beams. Bottoms of both chests slope down toward inlet of the single pump which serves to transfer stock from either chest to the machine chests and ends in a sump at pump section which also acts as trap for foreign material. This arrangement results in short pump suction.

Horizontal propeller-type agitators provide agitation of pulp, all of which arrives at beater room in slush form. These agitation units have 36 in. diameter bronze, adjustable-pitch propellers. A 20 hp motor powers No. 2 machine agitator and 25 hp motor drives No. 1 machine agitator, where more filler is used and the consistency is somewhat higher.

Stock and whitewater piping to the mixing chests are arranged so that all fiber and whitewater furnish enters through a single pipe ending in swing joint fitting located directly above the common wall. This arrangement eliminates all valves in these lines except throttle valves on the pumps handling whitewater and broke, and one pair of remote controlled valves connecting pulp storage chests.

Rosin-size and alum arrive at the mixing chests from measuring tanks located just above mixing chests. A similar arrangement provides for addition of clay from slurry system installed at the same time. The required quantity of these materials goes into measuring tanks for each batch and the whole run into mixing chests.

Stock continuously transfers to machine chests where constant level is maintained.

The machine chests, one of 12 ft. diameter for each machine, are similar in design and construction to the mixing chests. These use same type agitators, each powered by 20 hp motors. Stock from machine chests is pumped through jordans to machine stuff box from which overflow goes to machine chest pump suction.

Consistency of pulp to beater room is controlled at 3½% and further regulated during transfer to machine chests according to specific grade requirements. Recently installed DeZurik Shower Co. regulators control these consistencies. Other equipment of this modernization program includes Cameron Machine Co. stock pumps, James W. Brinkley Co. agitators, Stebbins Engineering tile chests, and stainless steel by Northwest Copper Works of Portland, Ore.

## Consolidated Additions

A $360,000 2-story brick-steel 600,000 cu. ft. finishing plant is being added to Consolidated Water Power & Paper Co.'s Wisconsin Rapids mill. It will provide straight line production to meet demands for sheeted enamel paper, increasing daily capacity from 140 to 200 tons.

# Keep Production UP
# by Keeping Down-Time DOWN
# ...with *Carpenter* Stainless Tubing

Evaporators and heaters take a beating in any mill. Steam and corrosive pulp liquors seek out and work on any weak spots in tubes . . . break them down wherever they find pits, porosities or thin spots.

That's why more and more manufacturers of equipment for pulp and paper industries are specifying Carpenter Stainless Tubing for processing equipment. They find that Carpenter gives them *more than corrosion resistance*—unexcelled adherence to specifications of finish, dimension and analysis and consistently uniform quality that gets equipment on the line faster—keeps it on longer.

And there's a bonus, too, that comes with using Carpenter. When tube replacement is required—the uniform wall thickness makes Carpenter Stainless easier to roll in—eliminates the problems usually found when using "run-of-mill" stainless.

There *is* a difference in stainless tubing—and Carpenter makes that difference. Why not let us help you keep production up—down-time down. For your next stainless tubing, call your Carpenter representative. Ask him for engineering and design help in solving your tough tubing problems. When you call Carpenter, you'll find that:

"One Call Does It All".

**The Carpenter Steel Company, Alloy Tube Division, Union, N.J.**
Branch Offices: Atlanta Chicago Pittsburgh Houston
Newark San Francisco

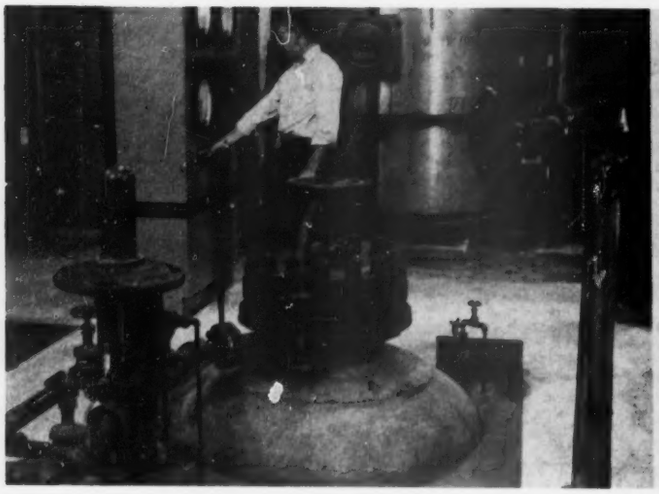
Export Dept.: The Carpenter Steel Co., Port Washington, N.Y.
"CARSTEELCO"

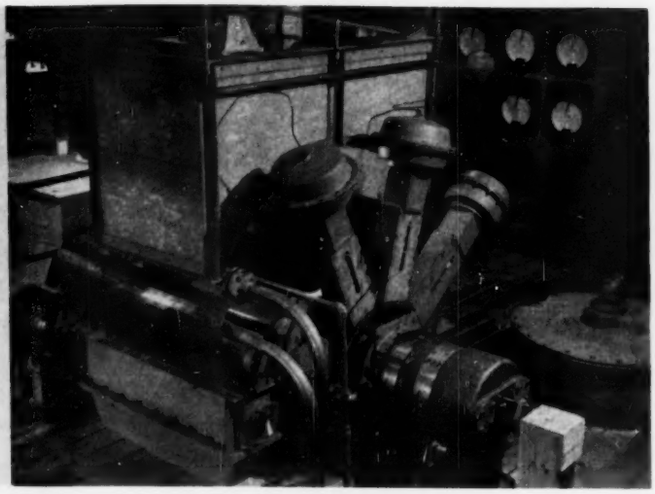
# *Carpenter*
## STAINLESS TUBING & PIPE

Analysis · Tolerance · Finish

**- guaranteed on every shipment**

# BROWN CO. PULP PILOT PLANT AT BERLIN





**DIGESTER CHARGING FLOOR** (left) at Brown Co. pilot plant showing instrument panel for automatic steaming, and relief control, and top of stainless steel General American Transportation Corp. digester.

**BROWN CO. PULP PILOT PLANT** features an Improved Machinery Co. rotary vacuum filter (right) with air-loaded press rolls; double take-off roll assembly; multiple showers; stainless-steel vat; and three-port take-off of filtrate.

A NEW TOOL for Dr. George A. Day, director of research and development of Brown Company, Berlin, N.H., and his staff, is a pulp pilot plant outfitted with the latest in modern equipment from chipper to paper machine. The pulp pilot plant, which supplements the previously installed experimental paper machine, will be used to improve the quality of sulfite and sulfate pulps and to develop special pulps for new products and markets.

The pilot plant can produce pulp for the paper machine in large enough quantity to provide new or old customers with sufficient pulp or paper for satisfactory trial runs. This eliminates the necessity of interfering with runs on the large machines at Berlin. Equipment includes:

*Digester:* 500-lb. pulp capacity, of welded construction from solid stainless steel. Has circulation pump and heater, direct or indirect cooking. It has complete instrumentation. Supplied by General American Transportation Corp.

*Vacuum Washer:* Copy of standard Impco stainless-steel, rotary, vacuum filter including air-loaded press rolls; double take-off roll assembly; multiple showers, and three-port take-off of filtrate. Control panel and instrumentation for each press roll.

*Instrumentation:* Minneapolis-Honeywell recording and integrating electric flow meter for total steam; Fischer-Porter "Rotameters" for chemical reagents; and Foxboro equipment for balance of instruments.

*Other Equipment:* Impco midget-type high density double-shaft mixer of stainless steel with individual v-belt drives for each rotor; Nichols Engineering 4-inch stainless steel "Vortrap," stainless blow tank and tanks for liquor and stock storage, and acid make-up.

# BIGGER WASHINGTON IRON WORKS

About a quarter century after first white settlers founded Seattle, the Washington Iron Works, the city's oldest and one of its largest industries, was established. Last year Seattle celebrated its Centennial and same year was Washington Iron Works' 72nd birthday.

Seattle, largest city of its age in America, has so hemmed in the present 8-acre plant that the Frink family, owners through three generations, announce they have taken an option on 77 acres near Issaquah, 12 miles east of Seattle, for a new, modern plant.

"During its existence in Seattle," states Gerald Frink, president, "the Washington Iron Works has been obliged to move three times and rebuild four times. We have also taken into consideration the government's request for decentralization of Seattle factories. We have an option on land ideally suited to our purpose, skirted by a good highway and bounded for half a mile by the Northern Pacific Railway, where we are assured terminal rates."

Washington Iron Works products go into marine, lumber and logging, pulp and plywood, fisheries, mining, construction, etc.

The company has specialized in logging machinery. Its logging engines and loaders are used in every part of the U.S. and Australia, New Zealand, India and Africa.

It has developed and is building several lines of pulp mill machinery, including massive hydraulic presses, unloaders and loaders, hydraulic barkers and chippers. Another major product is a portal revolving gantry crane. These are in operation all over the world. Also, a complete line of hammerhead, T-head, barge, level luffing, and pintle type cranes.


**THIS MAP shows new home of the international pulp, lumber and construction machinery industry—Washington Iron Works—12 miles east of Seattle at Issaquah. Hansel hydraulic barkers, hydraulic presses and other products of this company are sold all over the world, are known in every pulp and paper region of this continent.**

When John M. Frink, founded the concern in 1881, it was largely an iron foundry serving the lumber industry. Today 95 percent of sales are outside the Seattle area; 50 percent outside the state. The yearly payroll is $2,000,000 and majority of employes are engineers and skilled mechanics.

The founder's son, Gerald Frink, is president; another, Francis Frink, Sr., is vice president. Gerald's sons, James H. and Philip, and Francis' son, Francis G., Jr., are officers and executives.

## Chile Mills May Buy U. S. Equipment

The $20,000,000 loaned by the International Bank for Reconstruction and Development in Washington, D.C., for building pulp, kraft and newsprint mills in Chile will be spent in the U.S. and Europe for equipment, according to G. Lincoln Sandelin, of the Bank's department of operations for the Western Hemisphere.

The loan was made to Cia. Manufacturera de Papeles y Cartones, S.A. and Corporacion de Fomento de la Produccion. The former has 7,000 stockholders. The latter is a Chilean government agency, to comply with Chilean law.

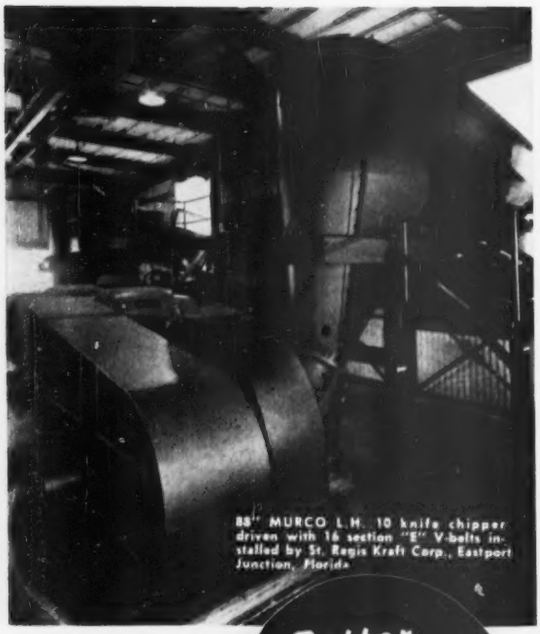
Mr. Sandelin told PULP & PAPER that Papeles y Cartones will own and operate the mills with Don Jorge Alessandri Rodriguez as president, and Don Antonio Bascunan Perez, general manager. A mill at Laja is to make 30,000 tons a year of unbleached, semi-bleached and bleached pulp, and 10,000 tons of kraft paper. A mill near Concepcion will make 44,000 tons newsprint and 6,600 tons boxboard. Raw material will be insignis pine.

## Feature Length Films On Champion Available

Two years of planning, writing and filming has been climaxed by production of three feature-length 16 mm. sound and Kodachrome color movies about The Champion Paper & Fibre Co. and the people who work for it in mills and woods. They are: "Good Business"—a 35 minute film about people; "Deep Roots"—45 minutes, about the forests; and "Paper Work"—similar length, about papermaking.

All are available for showings by industry groups or community audiences. To obtain the films write the company's public relations dept., Hamilton, O., or industrial-community relations depts. at Canton, N.C., or Pasadena, Tex.

Wilding Pictures Productions, Inc., Chicago, prepared and shot the films in those three mill towns, in Champion timberlands in the Carolinas, Tennessee, Georgia and East Texas, in its Sandersville, Ga., clay plant and its various midwest printing plants.



88" MURCO L.H. 10 knife chipper driven with 16 section "E" V-belts installed by St. Regis Kraft Corp., Eastport Junction, Florida

# MURCO

MULTIPLE KNIFE

# CHIPPERS

*Better Chips*
*Less Sawdust*
*Freedom FROM Repair*

MURCO Multiple Knife Chippers are the result of careful study of the factors that contribute to outstanding performance . . . so that today, MURCO Chippers have excellent records of achievement, exceptional endurance, freedom from repairs, while providing better chips with less sawdust and less space. MURCO Chippers are heavy duty machines . . . that places their construction in a preferred class, and while ruggedly built, their simplicity of operation makes them most desirable for the daily demands for more and better chips at less cost in the up-to-date mill.

Made in standard sizes 50 to 120 inches (large sizes for special installation). These features are important to the mill operator . . . check our latest machines:

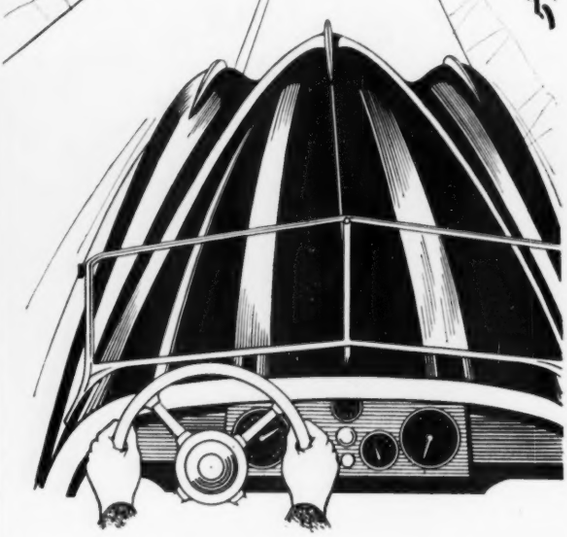
Uniform chips
Minimum sawdust
Fewer slivers
Production records of 100 cords and over per hour
Heavy design and rigid construction reduces vibration
Low maintenance

For complete details see our West Coast Representatives:
Dan E. Charles Agency,
607 Jones Building,
Seattle, Wash.

MURCO

**D. J. MURRAY MANUFACTURING CO.**
MANUFACTURERS SINCE 1883
WAUSAU WISCONSIN

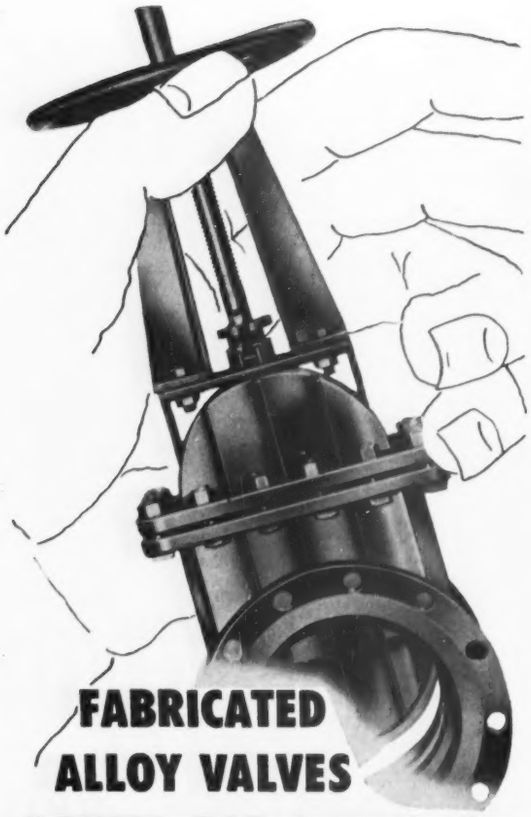
# *Keep it Under Control*



**GOSLIN-BIRMINGHAM offers you not only the ultimate in engineering and fabrication of black liquor evaporators, but the cooperative consultation service of experienced engineers who are especially qualified in all aspects of the recovery system — particularly evaporator controls, soap tanks and other appurtenances.**

*This service or consultation is yours without obligation. Please feel free to call on us.*

**GOSLIN-BIRMINGHAM**
MANUFACTURING CO., INC.
BIRMINGHAM, ALABAMA
CHICAGO: F. M. deBeers and Associates, 20 N. Wacker



# FABRICATED ALLOY VALVES BETTER FOR EVERY JOB

Maintenance is reduced to a minimum with Fabri-Valves. Whether your problem is liquid, vapor, steam or gases you'll find a Fabri-Valve to meet your specific need. Fabri-Valves are made of stainless steel, monel or any combination; alloy plate is rolled to a complete weldment, thus eliminating porous areas and assuring exact thickness. These light-wall valves are fabricated to give complete internal and external protection wherever required.

Fabri-Valves cost less, weigh less, are cheaper to ship and install. 2" to 24" Fabri-Valves carried in stock. Custom made orders filled in 30 days.

**FABRI-VALVE**

TRADE MARK

**COMPANY OF AMERICA**

**2100 N. Albina Avenue, Portland 12, Oregon**

| | |
|---|---|
| SOUTHERN CORPORATION | Charleston, S.C. |
| FELKER BROS. | Marshfield, Wis. |
| NORTHWEST COPPER WORKS, Inc. | Portland, Ore. |
| THOS. W. MacKAY & SON, Ltd. | Vancouver, B.C. |
| CHANDLER BOYD CO. | Pittsburgh 19, Penn. |


Patents Pending

*The Marvelous Montgomery*

# BLO-HOG

**(The only all-purpose hog in the world)**

## *Eats Up Everything!*

. . . including Pine, Oak, Gum, Hickory, Elm, Wet Veneer, Round-up and Sandy Bark. Conveyor-fed—no attendant required. Positively protected from major damage by tramp steel. All connections locked — nothing to shake loose. Maintenance costs unbelievably low.

". . . Dear Mr. Montgomery: It is an unbelievable machine and it is still hard to believe that it is actually handling the enormous volume of scrap we are feeding into it. We operate the hog without an attendant—which means a considerable saving.—J. B. Black, Plant Superintendent, Ocala Manufacturing, Ice and Packing Co., Ocala, Fla."

C. I. T. Terms Available

*Write for bulletin and details*

**JACKSONVILLE BLOW PIPE CO.**

*P. O. Box 3687, Jacksonville, Florida*

*the new*

# TYPE J Johnson Joint

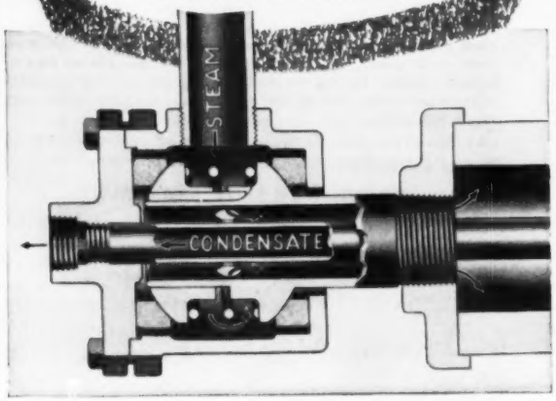
**Now Smaller Size**

- **Lighter Weight**
- **Lower Cost**
- **Longer Life**

***WRITE FOR NEW CATALOG***

**THE JOHNSON CORPORATION**

**849 Wood St. Three Rivers, Mich.**



## Northern Mills Starts GATX Evaporating Plant

Northern Paper Mills division of Marathon Corp. has started up its sulfite waste liquor evaporating and burning plant for disposal of all effluent of its 140 ton pulp mill. Major equipment includes a four effect General American Conkey Flat Plate Rosenblad reversible evaporator, Minneapolis Honeywell and Foxboro instrumentation, General Electric and Marathon Electric equipment, spray nozzles and additions for two existing furnaces, and an additional Riley 135,000 boiler to run the evaporating plant.

## New High Strength Pulp Developed by Rayonier

A new, improved high alpha cellulose designed especially for high-stretch rayon spinning techniques has been announced by Rayonier, Inc. It is expected to be produced at the new Jesup, Ga., mill. The new product, Rayocord-X, is said to produce tire cords that have proved fully competitive with cords produced from blends of cotton linters and wood cellulose.

The new cellulose, according to Rayonier, holds high hope for the entire rayon industry with tenacity and washability superior to rayon currently manufactured. Research and pilot plant work were done at Shelton, Wash.

**PAPER CHEMICALS SALESMEN**

Several positions with good advancement potential available in large national chemical manufacturing organization, involving sales and service of chemicals to the paper manufacturer. Graduate chemists or chemical engineers age 25-30, preferred, but not essential. Several years' technical experience in paper industry required. Please submit complete resume and indicate salary desired. Our sales staff has been informed of these openings. Reply Box 157, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

WANTED: Single or duplex head ream cutter for tissue papers suitable to accommodate and cut sheets 126" wide from 24 rolls at one time. Back stands are desired but not required. When quoting, give complete information and specifications including manufacturer's name and serial number. Reply Box 161, PULP & PAPER, 370 Lexington Ave., New York 17, N.Y.

## Hercules Talk In California Meeting

The Papermakers and Associates of Southern California at Los Angeles on Sept. 17 heard Prof. P. F. Neumann, manager of technical service, Hercules Powder Co., Wilmington, Del., on "Sizing." Next meeting of PASC will be Nov. 19.

**MEN WANTED—POSITIONS OPEN**

We can place—Manager rag content paper mill; production mgr. paper converting plant, printing, coating, laminating and finishing; night supervisor Fourdrinier mach. glassine mill; supt. Yankee Fourdrinier mill making flat tissue and lightweight sulphites.

Chemists, chem. engineers including recent graduates; mechanical engineers; master mechanics, designers or draftsmen; industrial engineers; Cylinder and Fourdrinier mach. foremen.

LIST YOUR APPLICATION WITH US. IT WILL BE CONFIDENTIAL.

**CHARLES P. RAYMOND SERVICE, INC.**
Phone: LIberty 2-6547
294 Washington St. Boston 8, Mass.

**CONVERTER OR BOX PLANT**

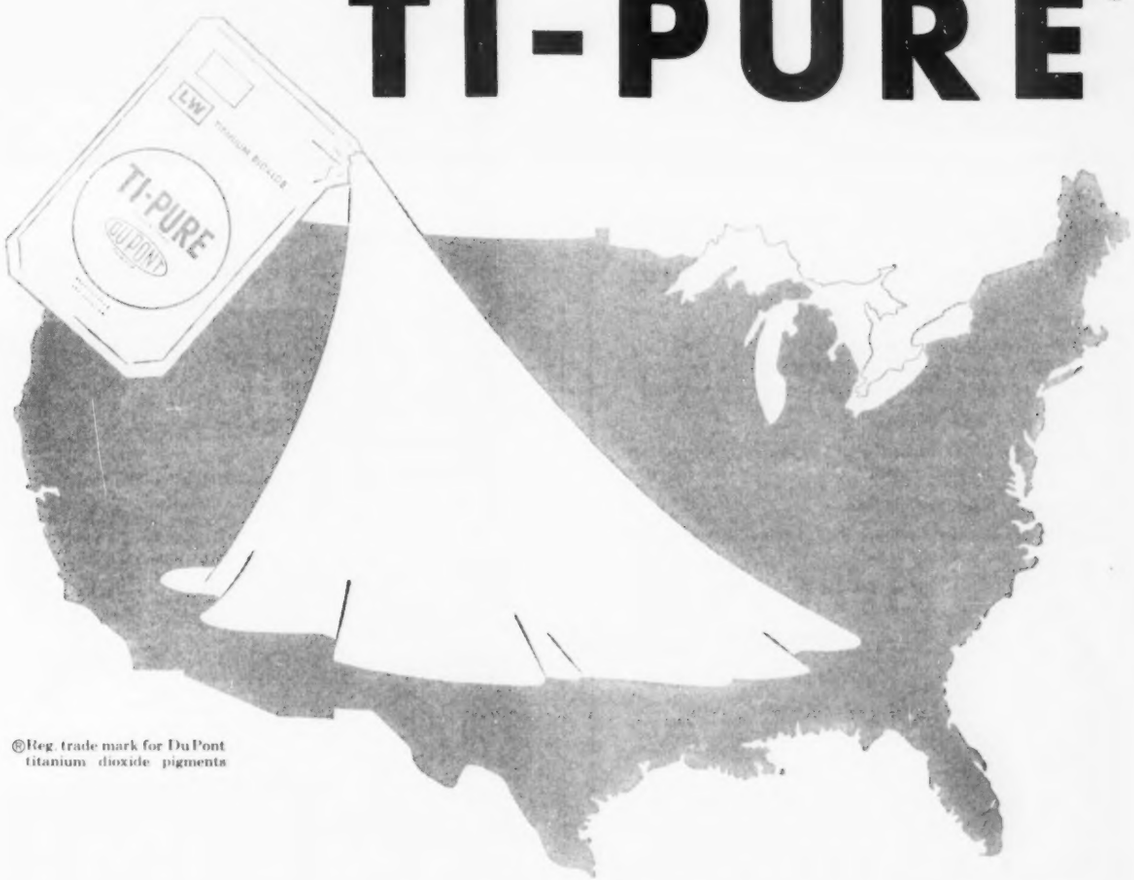
Cylinder machine mill in Middle West is interested in making arrangement with converter or box plant who wants a permanent mill connection on box board, coated or uncoated, or other cylinder machine products. Reply Box 163, PULP & PAPER, 370 Lexington Ave., New York 17, N.Y.

WANTED: 2 Synchronous motors, 1000 to 1500 HP, 300 RPM, for 4160 volt, 3 phase, 60 cycle, AC. When offering, include complete nameplate data including serial numbers. Write Box 162, PULP & PAPER, 370 Lexington Ave., New York 17, N.Y.

*from Du Pont...*

## NATIONAL DISTRIBUTION OF

# TI-PURE®




®Reg. trade mark for Du Pont titanium dioxide pigments

## QUALITY TITANIUM DIOXIDE PIGMENTS FOR PAPER

ON JANUARY 1, 1954 Du Pont will begin exclusive, national distribution of "Ti-Pure" titanium dioxide pigments to the paper industry. A record of over 20 years' successful performance has established "Ti-Pure" LW as one of the finest pigments ever offered to the trade. Whatever your pigment requirements you can count on satisfaction from Du Pont—the *one source* for "Ti-Pure" titanium dioxide pigments.

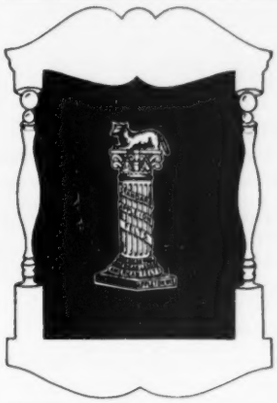
And remember, when you order "Ti-Pure" you also benefit from Du Pont's experience and technical facilities. Its modern laboratory, for example, is your assurance of getting expert technical aid when you need it—*and* a top quality pigment designed to do the job you have in mind. For more information, just call our nearest district office or write to: E. I. du Pont de Nemours & Co. (Inc.), Pigments Department, Wilmington 98, Delaware.

DU PONT

Better Things for Better Living
. . . *through Chemistry*

**PROMPT, NATIONWIDE SERVICE THROUGH THESE DU PONT DISTRICT OFFICES* AND WAREHOUSES:**

| | | | |
|---|---|---|---|
| Atlanta, Ga. | *Chicago, Ill. | *Cleveland, Ohio | Dallas, Texas |
| *Detroit, Mich. | *Houston, Texas | Indianapolis, Ind. | Kansas City, Mo. |
| Lockland, Ohio | Louisville, Ky. | *Malden, Mass. | Minneapolis, Minn. |
| New Orleans, La. | *New York, N. Y. | *Pasadena, Calif. | *Philadelphia, Pa. |
| *Portland, Oregon | St. Louis, Mo. | *San Francisco, Calif. | Seattle, Wash. |












STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

PULP & PAPER published monthly except August when publication is semi-monthly at Bristol, Connecticut, for October 1, 1953.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher, Miller Freeman, 370 Lexington Avenue, New York 17, New York.
Editor, Albert W. Wilson, 370 Lexington Avenue, New York 17, New York.
Managing editor, None. General manager, Miller Freeman, Jr., 370 Lexington Avenue, New York 17, New York.
Business manager, None.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)
Miller Freeman Publications, Incorporated, 121 Second Street, San Francisco 5, California.
Miller Freeman, Jr., Wm. B. Freeman, 121 Second Street, San Francisco 5, California.
L. K. Smith, W. E. Crosby, Harry P. Cain, 71 Columbia Street, Seattle 4, Washington.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)
None

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

MILLER FREEMAN, Jr., General Manager.

Sworn to and subscribed before me this 1st day of October, 1953.

HAZEL TROWBRIDGE
Notary Public in and for the City and County of San Francisco, State of California. (My commission expires October 4, 1956.)

## FIRMS YOU SHOULD KNOW
### PULP & PAPER'S ADVERTISERS
**Turn to these pages to find their advertisements**

# A GREEN THUMB

## plus fire, insect and disease control assures

# TIMBER as a CROP!

In the Weyerhaeuser long range timber growth plan, blocks of "parent seed trees" provide seeds for new growth trees which will supply a steadily increasing part of the harvest. As these second growth trees replace virgin timber, the science of tree growing will have to solve many new problems of forest management.

Looking to the future, Weyerhaeuser Timber requirements will be obtained from trees between 80 and 160 years old. To successfully accomplish this transition, Weyerhaeuser Forestry Research is constantly gathering more specific knowledge of tree growing habits and their relationship to fire, insects, disease and logging practices.

The soundness of the Weyerhaeuser sustained yield programs depends on the ability of its foresters to predict with reasonable accuracy the yield of these young forests. Based on these future growth figures, the productive capacity of the Pulp Division can be planned years ahead. As the quantity of the crops from these young forests increases, so will the quantity of Weyerhaeuser Sulphite and Sulphate pulps.

PULP DIVISION WEYERHAEUSER

# PULP

# Perkins-Goodwin Co.

*Established 1846*

30 ROCKEFELLER PLAZA, NEW YORK

CHICAGO, ILLINOIS | LUFKIN, TEXAS | STOCKHOLM, SWEDEN

# PAPER